ICF-SW30/SW30L

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model
ICF-SW30
French Model
ICF-SW30L

PHOTO : ICF-SW30

SPECIFICATIONS

Circuit system:
SW: Dual conversion superheterodyne
MW/FM: Single conversion superheterodyne
Frequency range:

Band	Meter band	Frequency	Channel step
LW		153–279 kHz*1	9 kHz
MW		531–1710 kHz*2 530–1710 kHz*2 531–1602 kHz*3 530–1610 kHz*3	9 kHz 10 kHz 9 kHz 10 kHz
SW	75 m 60 m 49 m 41 m 31 m 25 m 21 m 19 m 16 m 13 m	3700–4200 kHz*2 3850–4200 kHz*3 4650–5150 kHz 5800–6300 kHz 6950–7450 kHz 9375–10000 kHz 11525–12150 kHz 13375–14000 kHz 14975–15600 kHz 17475–18100 kHz 21320–21950 kHz	1 kHz (Manual tuning) 5 kHz (Scan tuning)
FM		87,50–108,00 MHz*4 76,00–108,00 MHz*5	0,05 MHz

* 1 French Model (ICF-SW30L)
* 2 Countries except for Italian, French and Saudi Arabia Model
* 3 Italian and Saudi Arabia Model.
* 4 German, Austrian, Scandinavian countries, Italian and Saudi Arabia, French Model.
* 5 Countries except for * 4

Intermediate frequency:
FM : 10.7 MHz, MW/LW : 450 kHz (LW : ICF-SW30L Only)
Speaker: Approx. 6.6 cm (2 1/8 inches)
Power output: 240 mW (at 10 % harmonic distortion)
Output: Earphones jack (stereo minijack)

Power requirements: 4.5 V DC, three R6 (size AA) batteries
DC IN 4.5 V jack accepts:
Sony AC-E45M AC power adaptor (not supplied)
Sony DCC-E145L car battery cord (not supplied) for use with 12 V car battery
Battery life: Approx. 13 hours of listening for 4 hours a day at a normal volume using Sony batteries SUM-3(NS)
Dimensions: Approx. 169 × 111 × 35 mm (w/h/d) (Approx. 6 3/4 × 4 3/8 × 1 7/16 inches) not incl. projecting parts and controls
Mass: Approx. 448 g (15.8 oz) incl. batteries.
Accessories supplied: Short wave guide (1)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308 EEC regarding interference suppression.

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

ICF-SW30 : FM STEREO/SW/MW PLL SYNTHESIZED RECEIVER
ICF-SW30L : FM STEREO/SW/LW PLL SYNTHESIZED RECEIVER

SONY®

MICROFILM

TABLE OF CONTENTS

Section	*Title*	*Page*
	Specifications	1
	Servicing Note	2
1.	**GENERAL**	
	Location of Controls	3
	Setting the Clock	4
	Operating the Radio	5
	Setting the Alarm	6
	Setting the Sleep Timer	6
	Installing Batteries	6
2.	**EXPLANATION OF IC TERMINALS**	7
3.	**ELECTRICAL ADJUSTMENTS**	9
4.	**DIAGRAMS**	
	4-1. Block Diagrams	13
	4-2. Printed Wiring Boards	17
	4-3. Schematic Diagram	21
5.	**EXPLODED VIEWS**	
	5-1. Cabinet Section	26
	5-2. Chassis Section	27
6.	**ELECTRICAL PARTS LIST**	28

Features

- FM stereo/SW/MW portable receiver with worldwide band coverage
- Quartz controlled PLL (Phase Locked Loop) synthesizer system using a microcomputer for easy pinpoint tuning
- Worldtime clock for international use
- Memory preset for up to 5 stations on each band
- Scan tuning
- Alarm function to turn the radio on at the preset time
- Sleep timer
- FM stereo reception through stereo earphones

SERVICING NOTE

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ℃ during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

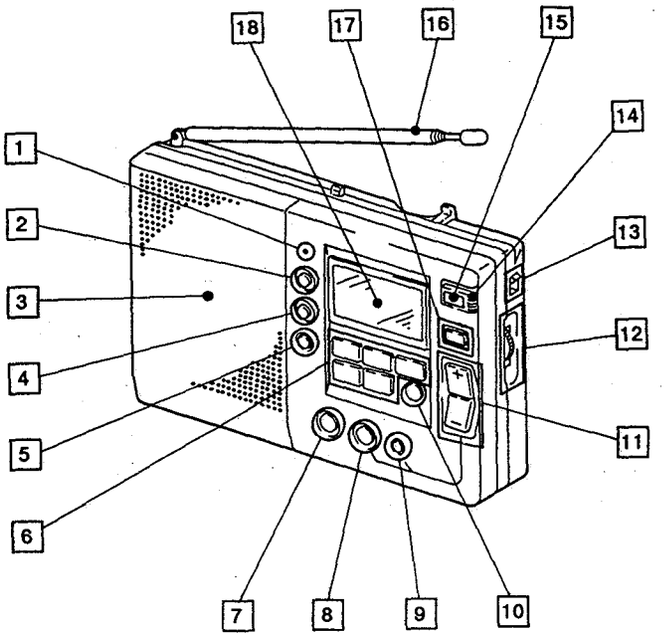
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1
GENERAL

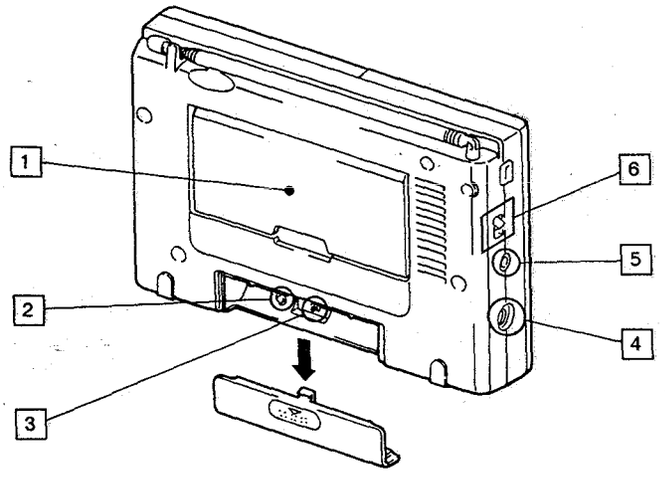
LOCATION OF CONTROLS

Front, Right Side



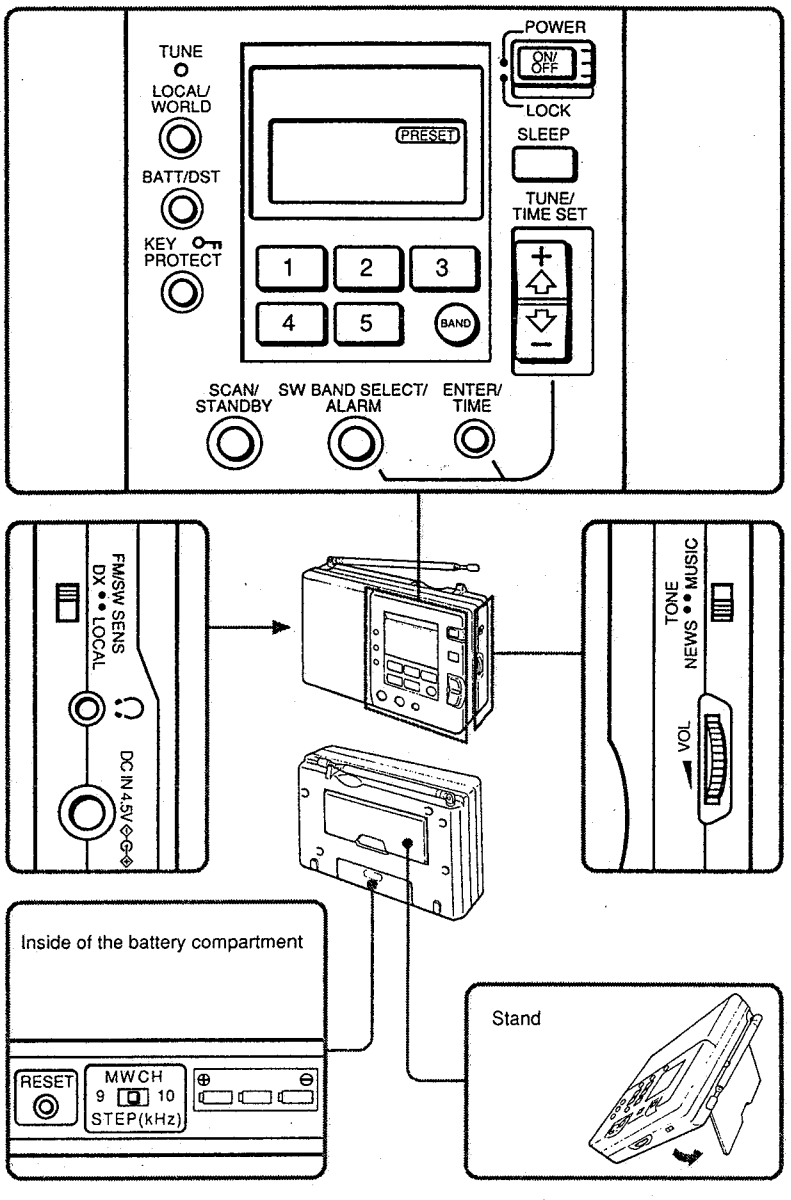
1. TUNE (tuning) indicator
2. LOCAL/WORLD button
3. Speaker
4. BATT/DST button
5. KEY PROTECT button
6. MEMORY PRESET button
   - 1 button
   - 2 button
   - 3 button
   - 4 button
   - 5 button
7. SCAN/STANDBY button
8. SW BAND SELECT/ALARM button
9. ENTER /TIME button
10. BAND Select button
11. TUNE/TIME SET +/ – button
12. VOL (Volume) control knob
13. TONE selector knob
14. POWER/LOCK switch
    When using the unit, set this switch to POWER. Set the switch to LOCK when carrying the unit. When this switch is set to LOCK, all the functions of the buttons are locked.
15. POWER ON/OFF button
16. Telescopic antenna
17. SLEEP button
18. Display window

Rear, Left Side



1. Stand
2. RESET button (inside the battery compartment)
   When this button is pressed, all the stored memories are cleared and the clock is reset. The unit will return to the same condition as when you inserted the batteries for the first time.
3. MW CH STEP (9/10kHz step) selector (ICF-SW30 Only)
4. DC IN 4.5V (external power input) jack
5. PHONES (earphones) jack (stereo mini)
6. FM/SW SENS selector

This section is extracted from instruction manual.



Setting the Clock

Set the time when the radio is turned off.

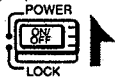
LOCAL time means the time in your area and WORLD time means the time in a certain place in the world. Refer to the map located at the rear of the unit. They can be switched between each other by pressing **LOCAL/WORLD**.

The clock operates in 24-hour system.
"0:00"= midnight
"12:00"= noon

Setting LOCAL Time

When installing batteries for the first time, the display will flash "0:00" and indicate "LOCAL".

1. Set **POWER/LOCK** to **POWER**. Make sure that **ON/OFF** is set to **OFF**.



2. Press **LOCAL/WORLD** to make the display show "LOCAL".
3. While holding down **ENTER/TIME**, press either + or – under **TUNE/TIME SET** till the correct time appears in the display. When you release **ENTER/TIME**, the clock begins to operate and ":" flashes.

- The current time displays even when **POWER/LOCK** is set to **LOCK**.
- To set the current time rapidly, keep pressing the + or – button while holding down **ENTER/TIME**.

Setting WORLD Time

1. Set **POWER/LOCK** to **POWER**. Make sure that **ON/OFF** is set to **OFF**.
2. Press **LOCAL/WORLD** to make the display show "WORLD".
3. While holding down **ENTER/TIME**, press either + or – under **TUNE/TIME SET** till the correct time appears in the display.
   WORLD time changes only in hours.

For Areas Where Daylight Saving Time is Used

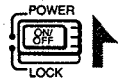
When setting the clock during this period, press **BATT/DST** after the step 1. " ☼ " appears in the display. When daylight saving time finishes, press **BATT/DST**. Current time indication changes automatically.
If you have previously set the clock when it is not in the period of daylight saving time, press **BATT/DST** at the beginning of this period.

- Press **BATT/DST** only when the radio is turned off.
- You can set daylight saving time for **LOCAL** time and **WORLD** time respectively.

Operating the Radio

Manual Tuning

1. Set **POWER/LOCK** to **POWER**.



2. Press **ON/OFF** to turn on the radio.
3. Turn **VOL** (volume) a little to get sound.
4. Press **BAND** to select the band.
   Each push changes the display as follows. (The last frequency selected in each band appears.) (LW : ICF-SW30L Only)

   → MW/LW → SW → FM →

5. For SW, while holding down **SW BAND SELECT/ALARM** , press either + or – under **TUNE/TIME SET** to select the meter band.
6. Tune in a station by pressing either + or – under **TUNE/TIME SET**.
7. Adjust **VOL**.

- To turn off the radio, press **ON/OFF**.
- When you listen to the news, set **TONE** to **NEWS**. The human voice will be heard more clearly. When you listen to music, set it to **MUSIC**.
- To enjoy FM stereo, connect stereo earphones (not supplied) to ∩ (earphones jack).
- To prevent accidental change of the receiving station, press **KEY** O-n **PROTECT**. " O-n " is displayed, indicating that all the functions of the buttons are locked. You can adjust **TONE**, **VOL** and **FM/SW SENS** even if " O-n " is displayed. To release the key protection, press **KEY** O-n **PROTECT** again.

Changing the MW Channel Step

Change the channel step when you use the radio where the frequency allocation system is based on the other MW channel step.

Area	MW channel step
North and South American countries	10 kHz
Other countries	9 kHz

1. Set **POWER/LOCK** to **LOCK**.
2. Remove the batteries from the unit.
3. Change the position of the MW CH STEP selector in the battery compartment with a ball-point pen or other pointed object.
4. Install the batteries and set **POWER/LOCK** to **POWER**.

- The MW channel step cannot be changed with step 3 only. Follow steps from 1 to 4 completely.

Note on RESET

There is the **RESET** button in the battery compartment. When this button is pressed, all the stored memories are cleared and the clock is reset.

Scan Tuning

Use scan tuning to automatically scan the stations in the frequency range of a broadcast band.

1. Set **POWER/LOCK** to **POWER**.
2. Press **ON/OFF** to turn on the radio.
3. Press **BAND** to select the band.
   For SW, while holding down **SW BAND SELECT/ALARM**, press either + or – under **TUNE/TIME SET** to select the meter band.
4. Press **SCAN/STANDBY**.
   Scan tuning will begin within the frequency range of the table on "Specifications", and stop automatically for about two seconds when a station is received.
5. When your desired station is tuned in, press **SCAN/STANDBY** again.
   Until you press **SCAN/STANDBY**, scan tuning will continue.
6. Tune the station more precisely with either + or – under **TUNE/TIME SET**, if necessary.
7. Adjust **VOL**.

- Set **FM/SW SENS** to **DX** normally. When the scan stops so often, set it to **LOCAL**.

Preset Tuning

You can preset up to 5 stations in each band with the preset buttons 1 to 5.

Presetting the Stations

1. Tune in the desired station by manual or scan tuning.
2. While holding down **ENTER/TIME**, press the desired preset button.
   The preset number appears in the display and the station is preset.

- To change the preset station, install a new station's frequency in the number for which you wish to change stations. The previous frequency is canceled.

Tuning in a Preset Station

1. Set **POWER/LOCK** to **POWER**.
2. Press **ON/OFF** to turn on the radio.
3. Press **BAND** to select the desired band.
   For SW, while holding down SW BAND SELECT/ALARM, press either + or – under TUNE/TIME SET to select the meter band.
4. Press the preset number button of the station.
5. Adjust **VOL**.

- To improve reception
  FM: Extend the telescopic antenna and adjust the length, direction and angle for the best reception.
  SW: Pull out the telescopic antenna to its full length and set it vertically.
  MW/LW: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built into the unit. (LW : ICF-SW30L Only)

Note

Reception of 4900 and 9800 kHz may be difficult because of internal spurious signals generated by the built-in oscillators.

Setting the Alarm

You can turn on the radio at the preset time. The buzzer beeps 10 seconds earlier than the preset time, and at the preset time, the radio turns on with the frequency tuned before you turn off the radio last time.
When the power stays on, the radio is turned off automatically after about 60 minutes.
Before you set the alarm, make sure that tune in a station, adjust the volume, and turn it off.

1. Set **POWER/LOCK** to **POWER**.
2. While holding down **SW BAND SELECT/ALARM**, press either + or – under **TUNE/TIME SET** till the desired time appears in the display.
   While **SW BAND SELECT/ALARM** is held down, the display flashes "STANDBY".
3. Release **SW BAND SELECT/ALARM**. The alarm is set and the current time appears in the display.
4. Press **SCAN/STANDBY** to set the alarm.
   "STANDBY" appears in the display.

- The alarm turns itself off automatically after 60 minutes.
  When shutting off the alarm before that, press **ON/OFF**.
- To cancel the alarm, press **SCAN/STANDBY**. "STANDBY" in the display disappears.
- To check the preset time, set **POWER/LOCK** to **POWER** and press **SW BAND SELECT/ALARM**.
- When **POWER/LOCK** is set to **LOCK**, the alarm does not work even it is set.
- Radio sound will not be heard if **VOL** is turned down completely. Check **VOL** setting.
- When "0:00" is flashing, the alarm function does not work.

Note
The alarm function will activate when the current time indication becomes identical with the alarm time which has been preset. Make sure that either "LOCAL" or "WORLD" appears in the display. If you want to activate the alarm function at your home (local) time, "LOCAL" should be displayed. If you want to activate it at a time in some place in the world, "WORLD" should be displayed. To change the indication, press **LOCAL/WORLD**.

Setting the Sleep Timer

Enjoy falling asleep to the radio using the sleep timer.

1. Set **POWER/LOCK** to **POWER**.
2. Press **SLEEP**.
   "SLEEP" appears in the display and the radio turns on. It will go off after 60 minutes.
3. Tune in the desired station, and adjust **VOL**.

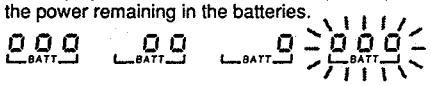
- To turn off the radio before the preset time, press **ON/OFF**.
- To prolong the listening time, press **SLEEP** again. The radio will be turned off 60 minutes later.

Installing Batteries

To keep good time and preset stations, your receiver needs three R6 (size AA) batteries (not supplied). Before setting the time and preset stations on your receiver, open the lid at the rear of the unit, install the batteries with correct polarity and then close the lid. After installing the batteries, "0:00" flashes. To stop flashing, press **ENTER/TIME**.

Knowing When To Replace the Batteries

While you are listening to the radio, check the battery condition by pressing **BATT/DST**. The unit displays one of four indications depending on the power remaining in the batteries.



new ⟶ used ⟶ exhausted

- When the batteries become weak, the sound becomes weak or distorted. When the batteries are completely exhausted, the power is turned off and " ooo " in the display flashes.
  When the power is turned on with the indication flashing, the power will be turned off right away.
  When " ooo " starts flashing, replace all the batteries with new ones.
  After the batteries are replaced, press **ON/OFF** to erase the flashing indication.
- Replace the batteries within about one minute after removing the batteries. If you do not replace them within one minute, the preset stations may be erased, the clock setting may be cleared and "0:00" flashes in the display.
- For battery life, see "Specifications".
- When the batteries are removed for a long time, preset stations will be erased and the clock setting will be cleared. In this case, store stations and set the clock again.

Using on Other Power Sources

The internal batteries are automatically disconnected when the AC power adaptor or the car battery cord is connected to the **DC IN 4.5 V** jack.

House Current

Connect the Sony AC-E45M AC power adaptor (not supplied) to the **DC IN 4.5 V** jack, and plug it into a wall outlet.

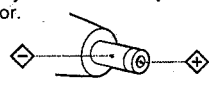
Car Battery

For use on a 12 V car battery, connect the Sony DCC-E145L car battery cord (not supplied) to the **DC IN 4.5 V** jack.

- When the AC power adaptor is not used, be sure to unplug it from both the **DC IN 4.5 V** jack and the wall outlet.
- The batteries should be inserted for backup even when the unit is operated on AC power adaptor or car battery cord.

Note on the AC Power Adaptor

Use only the recommended car battery cord or AC power adaptor (not supplied).
Do not use any other car battery cord or AC power adaptor.



Polarity of the plug

SECTION 2
EXPLANATION OF IC TERMINALS

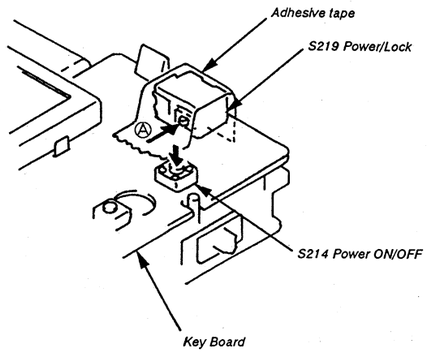
μ PD1724GB-555-1A7 (IC101)

Pin number	Mark	Pin name	I/O	Pin description
1 | 10	LCD10 | LCD1	LCD10 | LCD1	O	LCD drive segment signal output. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bias :1/2
11	NC	NC	–	Not used.
12 | 14	COM3 | COM1	COM3 | COM1	O	LCD drive common signal output. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bias :1/2
15 16 17 18	VSS3 CAP2 CAP1 VSS2	VSS3 CAP2 CAP1 VSS2	–	Terminals used for connecting a capacitor of a doubler circuit which supplies LCD drive voltage.
19	VDP	MUTE	O	Audio mute output signal. Active when Low. Audio noises are reduced before and after the mute signal when PLL, radio power supply or key srtobe change is controlled.
20	CGP	BEEP	O	Buzzer output using CGP. Sound to check keys, to check settings, to indicate that a setting time of timer is reached or to alarm is produced by using two kinds of musical intervals and the sound modulation.
21	NC	NC	–	Not used.
22	VDD	VDD	–	5V power supply input terminal.
23	VCOH	FM VCOH	I	FM VCO input.
24	VCOM	SW VCOM	I	SW VCO input.
25	VCOL	MW/LW VCOL	I	MW VCO input.
26	VSS1	VSS1	–	GND
27 28	EO1 EO2	EO1 EO2	O	Not use with this machine. PLL error output terminal.
29	CE	CE	1	Detects the voltage reduction of the AC battery. When the battery energy is reduced, the microcomputer is in the reducedvoltage mode. The battery mark blinks and the microcomputer waits for a clock's reset/display and Power ON Key.
30 31	XO XI	XO XI	O I	A quartz oscillating element connecting terminal. (75kHz)
32	VSS4	VSS4	–	Connected to a capacitor for a regulator circuit which supplies the oscillator' stable drive voltage.
33	PA3	LOCK SW IN	I	OFF Lock input. (Hi : Lock, Low : Unlock)
34	PA2	SD IN	I	Scan stop SD input.
35	PAI	BATT CHECK IN	I	Power check : BATT remainder DET input.
36	PA0	POWER OUT	O	Power : Radio ON/OFF output. "H"
37	PB3	BAND SW	O	BAND switching. FM : "L", MW(LW) : "L", SW : "H"
38	PB2	BAND AM	O	BAND switching. FM : "L", MW(LW) : "L", SW : "H"
39	PB1	BATT CHECK OUT	O	BATT remainder DET output.
40	PB0	INITIALIZE	O	INTIAL state setting terminal.

Pin number	Mark	Pin name	I/O	Pin description
41 | 44	PC2 | PC0	Key SOURCE	O	Strobe and return signals in 4 × 4 key matrix. A strobe signal change makes an audio noise. A strobe signal must be set to the fixed value when a key input is not changed. When the key input is decoded, the mute signal must be added.
45 | 48	K3 | K0	Key RETURN	I	
49 50	NC	NC	–	Not used.
51 | 56	LCD16 | LCD11	LCD16 | LCD11	O	LCD drive segment signal output. Driving voltage : 3.1V Duty : 1/3 Frame frequency : 100Hz Bais :1/2

SECTION 3
ELECTRICAL ADJUSTMENTS

Preparation :

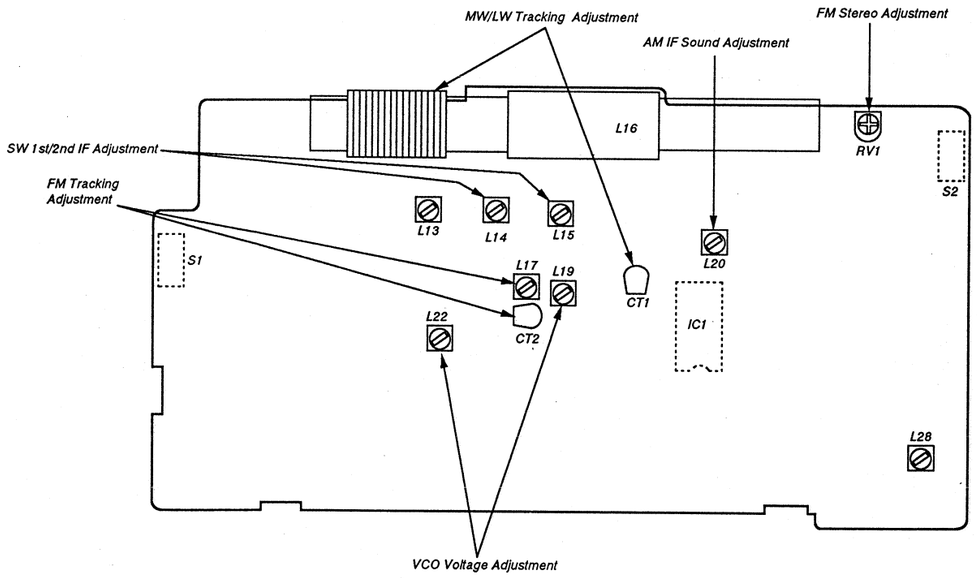


How to turn the power ON/OFF

1. Press down portion Ⓐ of S219 (Power/Lock) switch by adhesive tape.
2. Push the S214 (Power ON/OFF) switch.

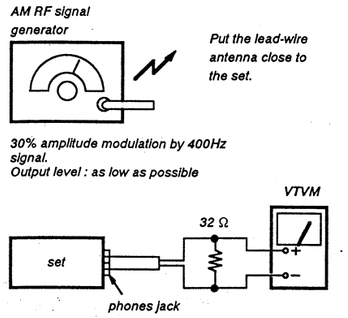
Adjustment Location :

【MAIN BOARD】 (Component Side)



AM SECTION

- MW: ICF-SW30
  LW: ICF-SW30L



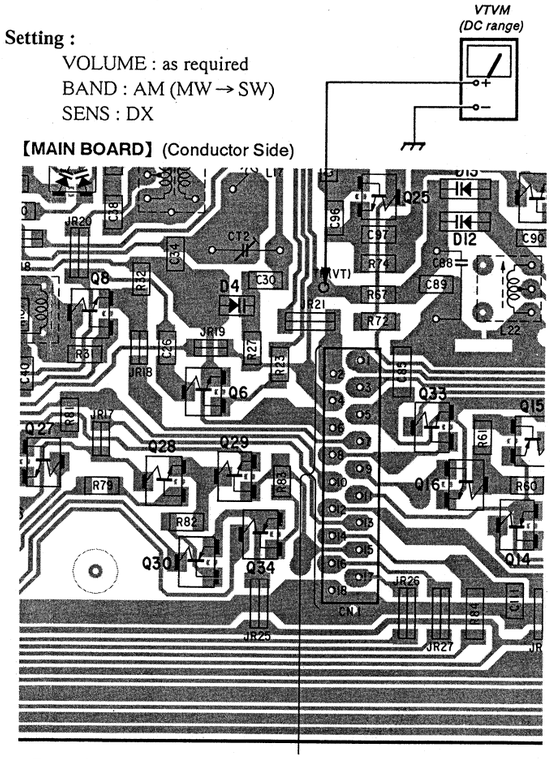
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

VCO Voltage Adjustment

Setting :

VOLUME : as required
BAND : AM (MW → SW)
SENS : DX

【MAIN BOARD】 (Conductor Side)



Procedure :

1. Tune the set to MW 531kHz.
2. Adjust L19 to obtain a 1.4 – 1.6V on the VOM.
3. Tune the set to MW 1710kHz.
4. Confirm that the voltage reading on the VOM is 7.0 – 9.0V.
5. Repeat the above steps several times.
6. Tune the set to SW 3700kHz.
7. Adjust L22 to obtain a 1.0 – 1.2V on the VOM.
8. Tune the set to SW 26100kHz.
9. Confirm that the voltage reading on the VOM is 11.5 – 12.0V.

MW/LW Tracking Adjustment

Setting :

VOLUME : as required
BAND : MW (LW)
SENS : DX

Procedure:

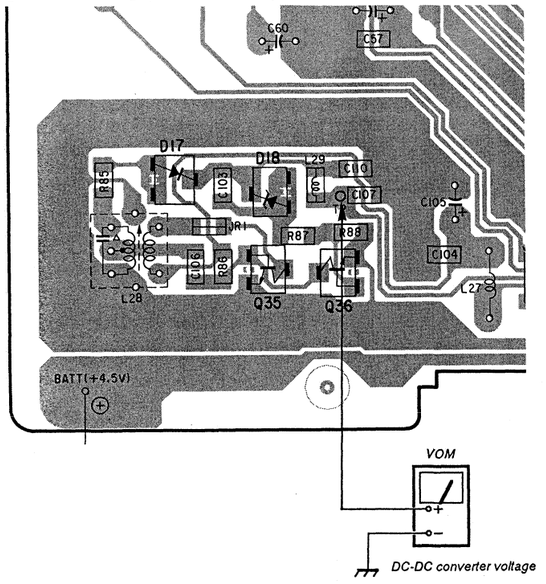
1. Set the frequencies of the AM RF SG and the frequency display of the set to 585kHz (171kHz).
2. Adjust L16 (Ferrite-rod Antenna) to obtain a maximum reading on the VTVM.
3. Set the frequencies of the AM RF SG and the frequency display of the set to 1485kHz (252kHz).
4. Adjust CT1 to obtain a maximum reading on the VTVM.
5. Repeat the above steps several times.

AM IF Sound Adjustment

Setting :

VOLUME : as required
BAND : MW (LW)

【MAIN BOARD】 (Conductor Side)



Procedure :

1. Set the frequencies of the AM RF SG and the frequency display of the set to MW 531kHz (LW 153kHz).
2. Confirm that the voltage reading on the VOM is 16.5-18.5V from DC-DC converter voltage.
3. Adjust L20 to obtain a maximum waveform on the oscilloscope.

SW 1st/2nd IF Adjustment

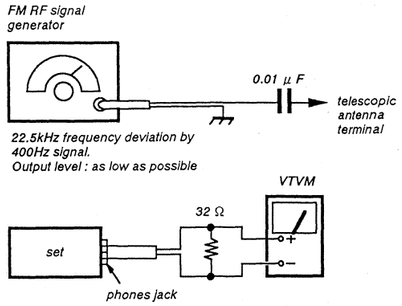
Setting :

VOLUME : as required
BAND : SW
SENS : DX

Procedure :

- **1st IF Adjustment**
  1. Set the frequencies of the AM RF SG and the frequency display of the set to 3700KHz.
  2. Adjustt L14 to obtain a maximum reading on the VTVM.
- **2st IF Adjustment**
  1. Set the frequencies of the AM RF SG and the frequency display of the set to 3700KHz.
  2. Adjust L15 to obtain a maximum reading on the VTVM.

FM SECTION



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

VCO Voltage Check

Note : 1) This adjustment should be performed after the AM VCO Voltage Adjustment.
2) Test point is identical the AM VCO Voltage Adjustment.

Setting :

VOLUME : as required
BAND : FM

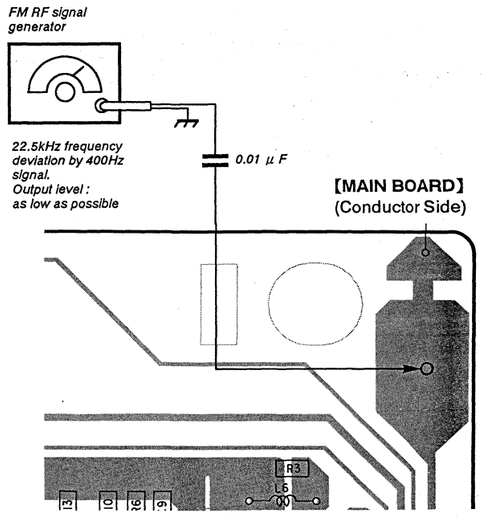
Procedure :

1. Tune the set to 76.0MHz.
2. Confirm that the voltage reading on the VOM is 1.0 – 3.0V.
3. Tune the set to FM 108.0MHz.
4. Confirm that the voltage reading on the VOM is 10.5 – 12.5V.

FM Tracking adjustment

Setting :

VOLUME : as required
BAND : FM

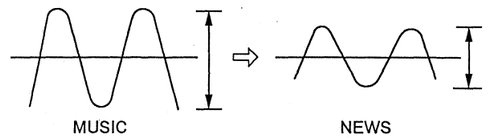


Procedure :

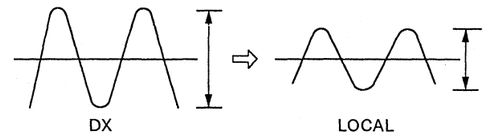
1. Set the frequencies of the FM RF SG and the frequency display of the set to 76.0MHz.
2. Adjust L17 to obtain a maximum reading on the VTVM.
3. Set the frequencies of the FM RF SG and the frequency display of the set to 108.0MHz.
4. Adjust CT2 to obtain a maximum reading on the VTVM.
5. Repeat the above steps several times.

FM IF Sound Check

1. Set the frequencies of the FM RF SG and the frequency display of the set to 90.0MHz.
2. Confirm that the waveforms on the oscilloscope is transformation like a bellow illustration when S2 (TONE) switching to MUSIC side and NEWS side.



3. Confirm that waveforms on the oscilloscope is transformation like a bellow illustration when S1 (SENS) switching to DX side and LOCAL side.

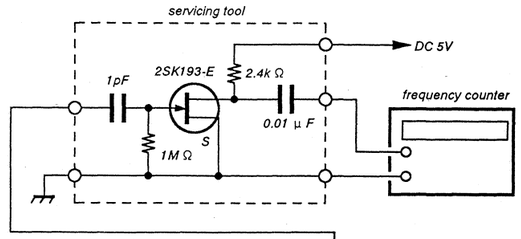


4. Confirm that hear the sound after insert the HEADPHONES into PHONES jack.

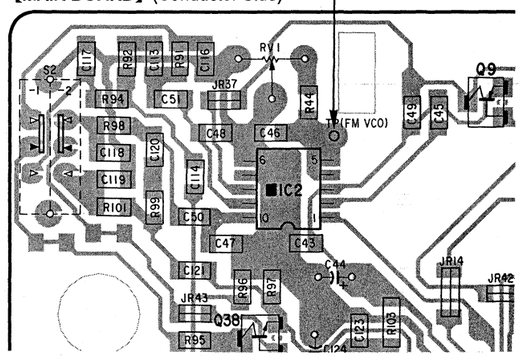
FM Stereo Adjustment

Setting :

VOLUME : as required
BAND : FM

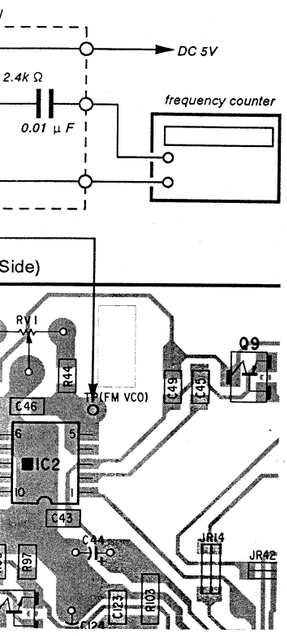


【MAIN BOARD】 (Conductor Side)



Procedure :

1. Insert the HEADPHONES into PHONES jack.
2. Connect a capacitor (10uF) between pin 21 of IC1 and GRAND.
3. Tune the set to FM 108.0MHz.
4. Adjust RV1 to obtain 75.8 – 76.2kHz on the frequency counter.

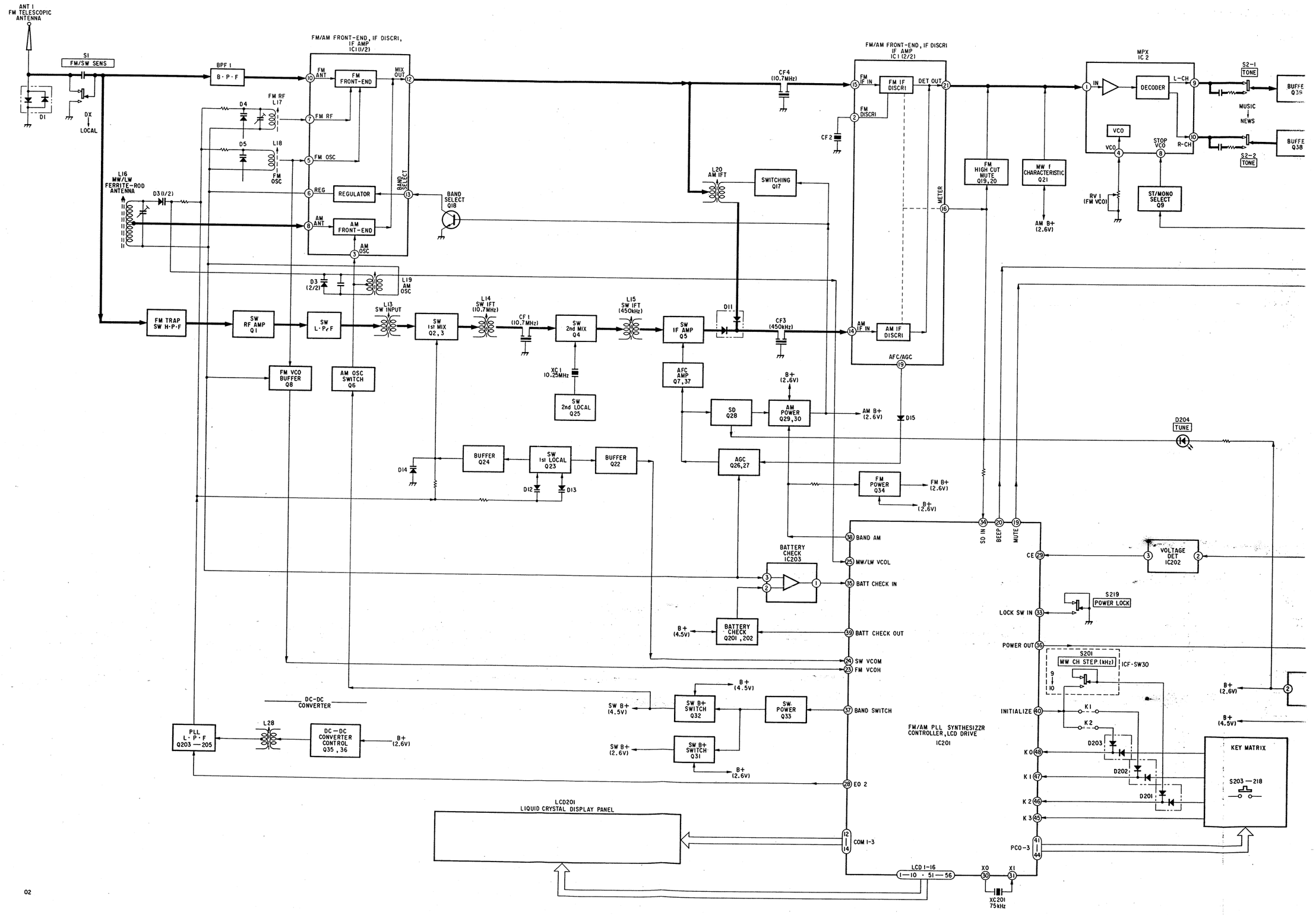


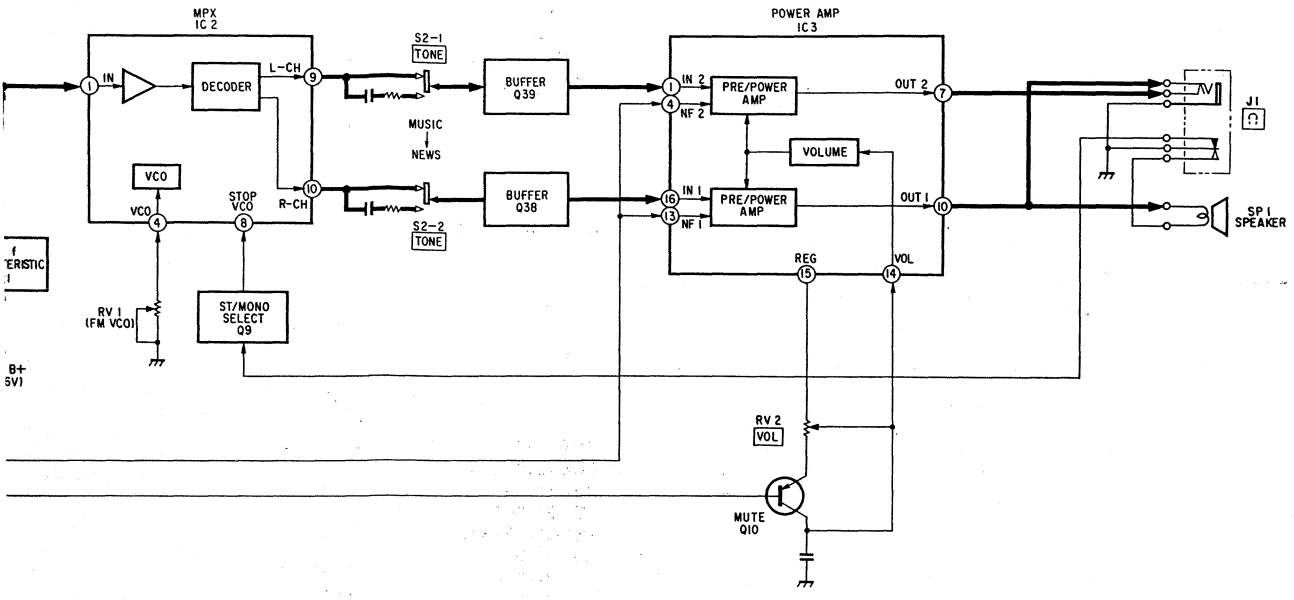
o PHONES jack.
tween pin 21 of IC1 and GRAND.
z.
76.2kHz on the frequency counter.

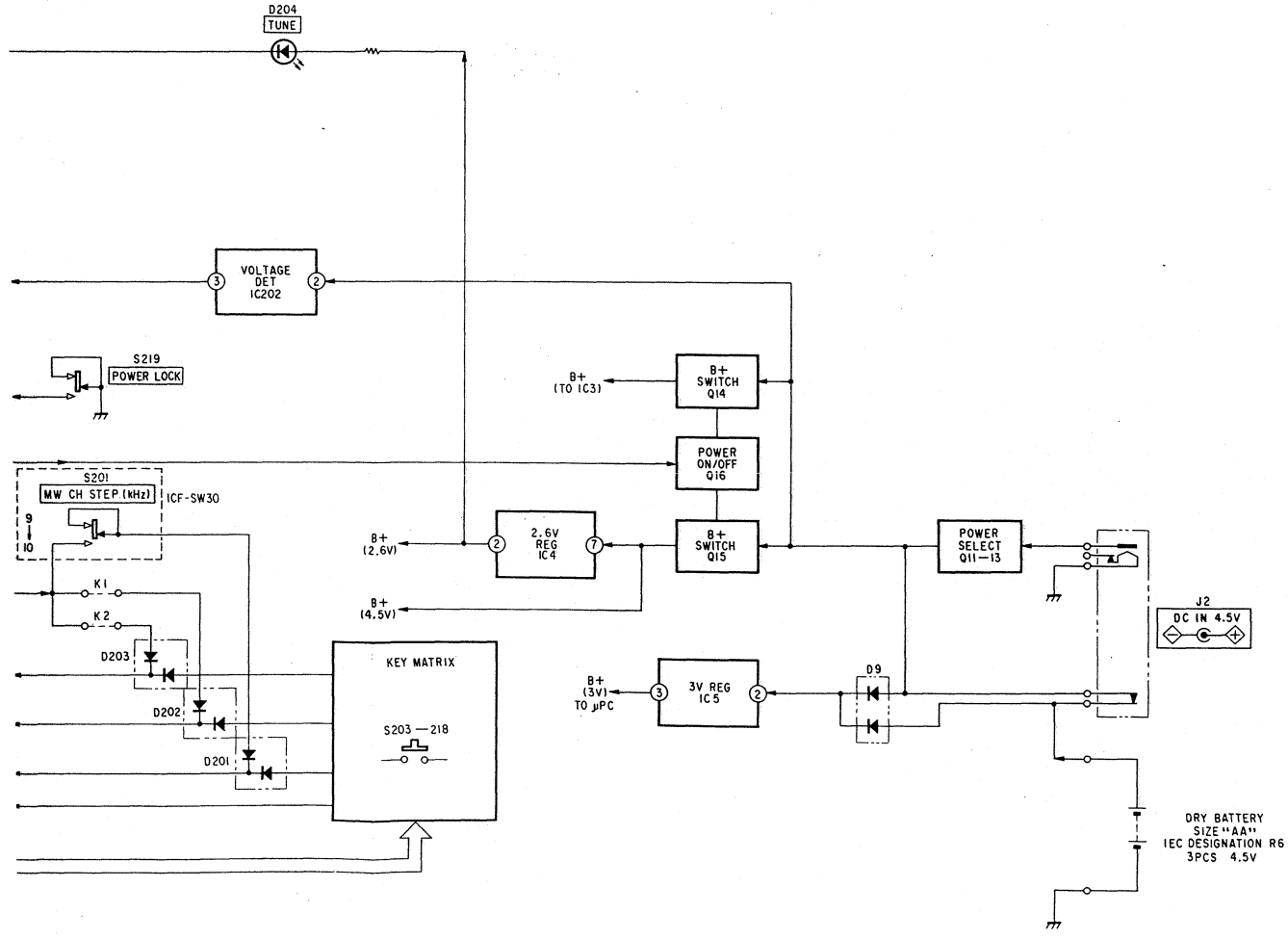
02

SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAMS

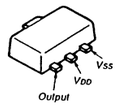



MPX
IC 2
IN
DECODER
L-CH
R-CH
VCO
STOP VCO
S2-1
TONE
S2-2
TONE
MUSIC
NEWS
BUFFER Q39
BUFFER Q38
POWER AMP
IC3
IN 2
NF 2
IN 1
NF 1
PRE/POWER AMP
PRE/POWER AMP
OUT 2
OUT 1
VOLUME
REG
VOL
J1
SP 1
SPEAKER
RV 1
(FM VCO)
ST/MONO
SELECT
Q9
RV 2
VOL
MUTE
Q10
B+
5V)

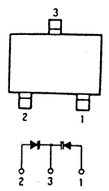

D204
TUNE
VOLTAGE
DET
IC202
S219
POWER LOCK
S201
MW CH STEP (kHz)
ICF-SW30
K1
K2
D203
D202
D201
KEY MATRIX
S203 — 218
B+
(TO IC3)
B+
SWITCH
Q14
POWER
ON/OFF
Q16
B+
(2.6V)
2.6V
REG
IC4
B+
SWITCH
Q15
B+
(4.5V)
POWER
SELECT
Q11—13
J2
DC IN 4.5V
B+
(3V)
TO μPC
3V REG
IC 5
D9
DRY BATTERY
SIZE "AA"
IEC DESIGNATION R6
3PCS 4.5V

• SEMICONDUCTOR LEAD LAYOUTS

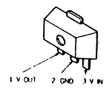
S-80728AN-DR-T1



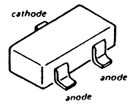
KV1580-TL345



S-81230AG-RB

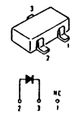


MA152WK



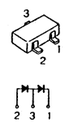
2SA1162
2SB1295-UL6
2SC1623-L5L6
2SC2223-F13
2SD596DV345
DTA144EK
DTC144EK
DTC144TK

RD16M-B
SB01-05CP

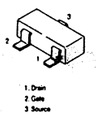


2SK209-G
2SK508-K51

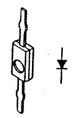
1SS226



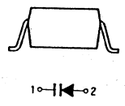
2SK210-GR



1SS279



IT33-T8-04



SLR-34VCA49

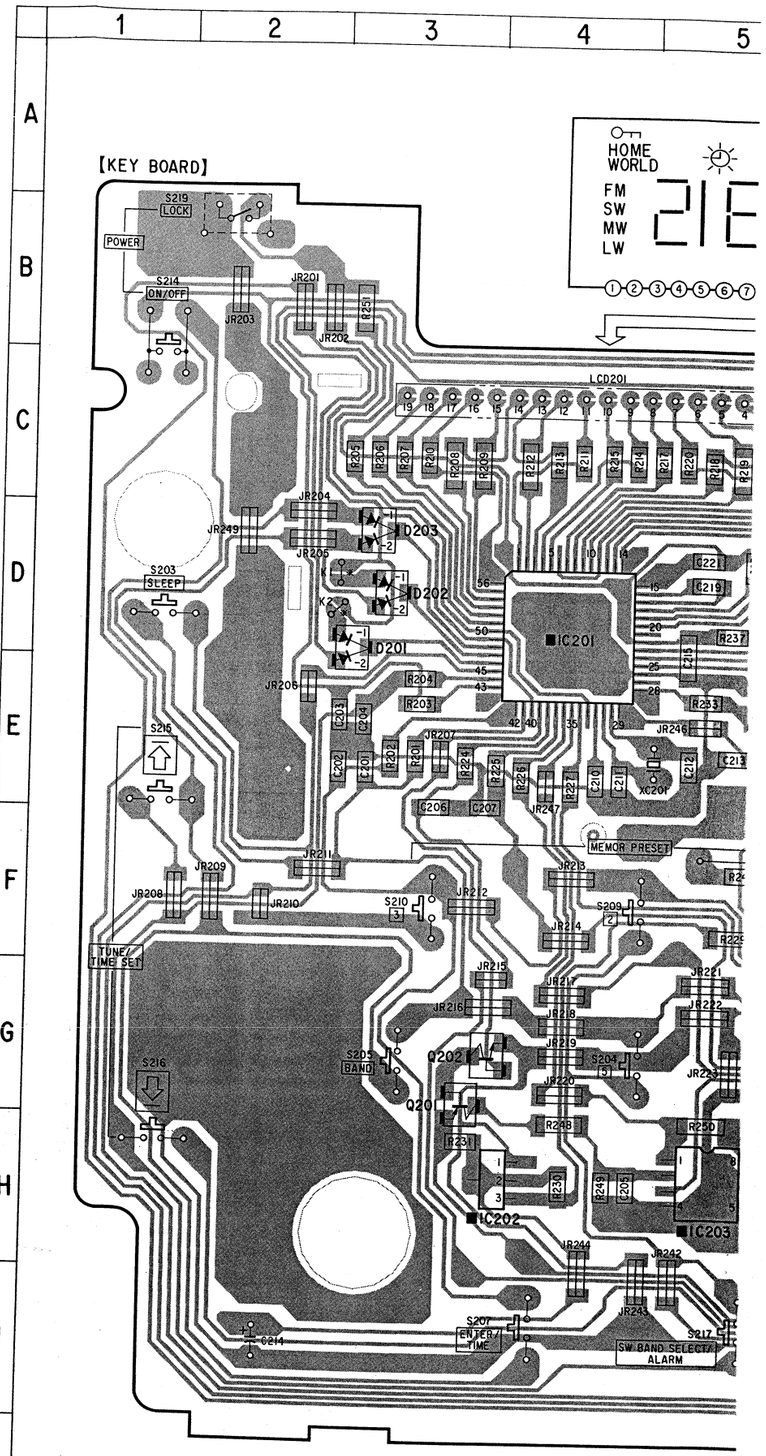
• SEMICONDUCTOR LOCATION

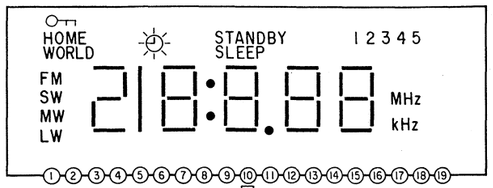
Ref. No.	Location	Ref. No.	Location
D1	E-21	Q7	D-15
D2	E-21	Q8	G-15
D3	F-15	Q9	C-12
D4	G-16	Q10	F-10
D5	G-14	Q11	H-21
D6	C-12	Q12	H-21
D7	H-20	Q13	H-20
D8	H-22	Q14	H-18
D9	H-21	Q15	G-18
D10	H-19	Q16	H-17
D11	D-13	Q17	E-13
D12	F-17	Q18	F-13
D13	F-17	Q19	F-12
D14	E-17	Q20	F-12
D15	H-14	Q21	G-12
D17	H-10	Q22	F-19
D18	H-11	Q23	F-18
D201	D-3	Q24	F-18
D202	D-3	Q25	F-17
D203	D-3	Q26	H-15
D204	C-7	Q27	H-15
		Q28	H-16
		Q29	H-16
IC1	F-14	Q30	H-16
IC2	D-11	Q31	F-19
IC3	F-11		
IC4	H-18	Q32	G-19
IC5	I-20	Q33	G-17
		Q34	H-16
IC201	D-4	Q35	I-11
IC202	H-4	Q36	I-11
IC203	H-5	Q37	E-12
		Q38	E-11
Q1	E-20	Q39	E-10
Q2	D-18	Q201	G-3
Q3	E-18	Q202	G-3
Q4	E-16		
Q5	E-15	Q203	E-5
		Q204	E-6
Q6	G-16	Q205	E-6

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▨ : Pattern on the side which is seen.
- □ : Chip components extracted from the rear side.

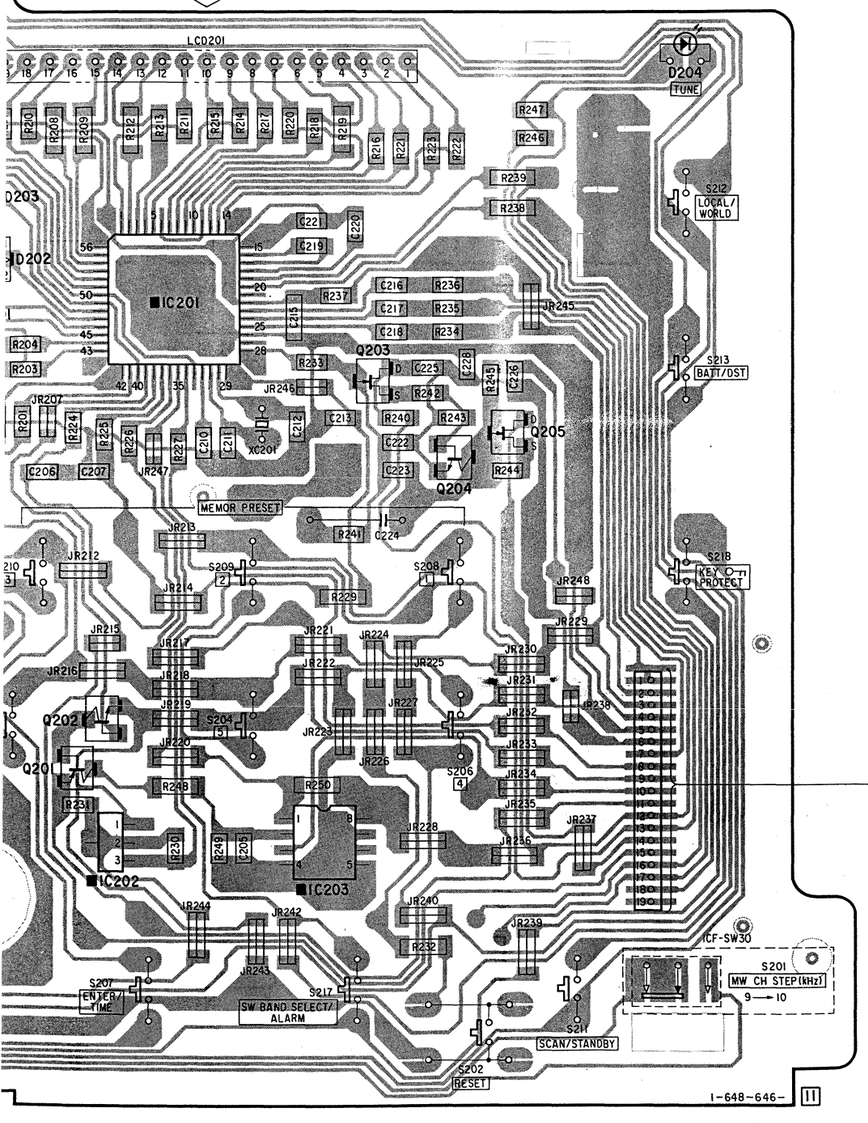
4-2. PRINTED WIRING BOARDS

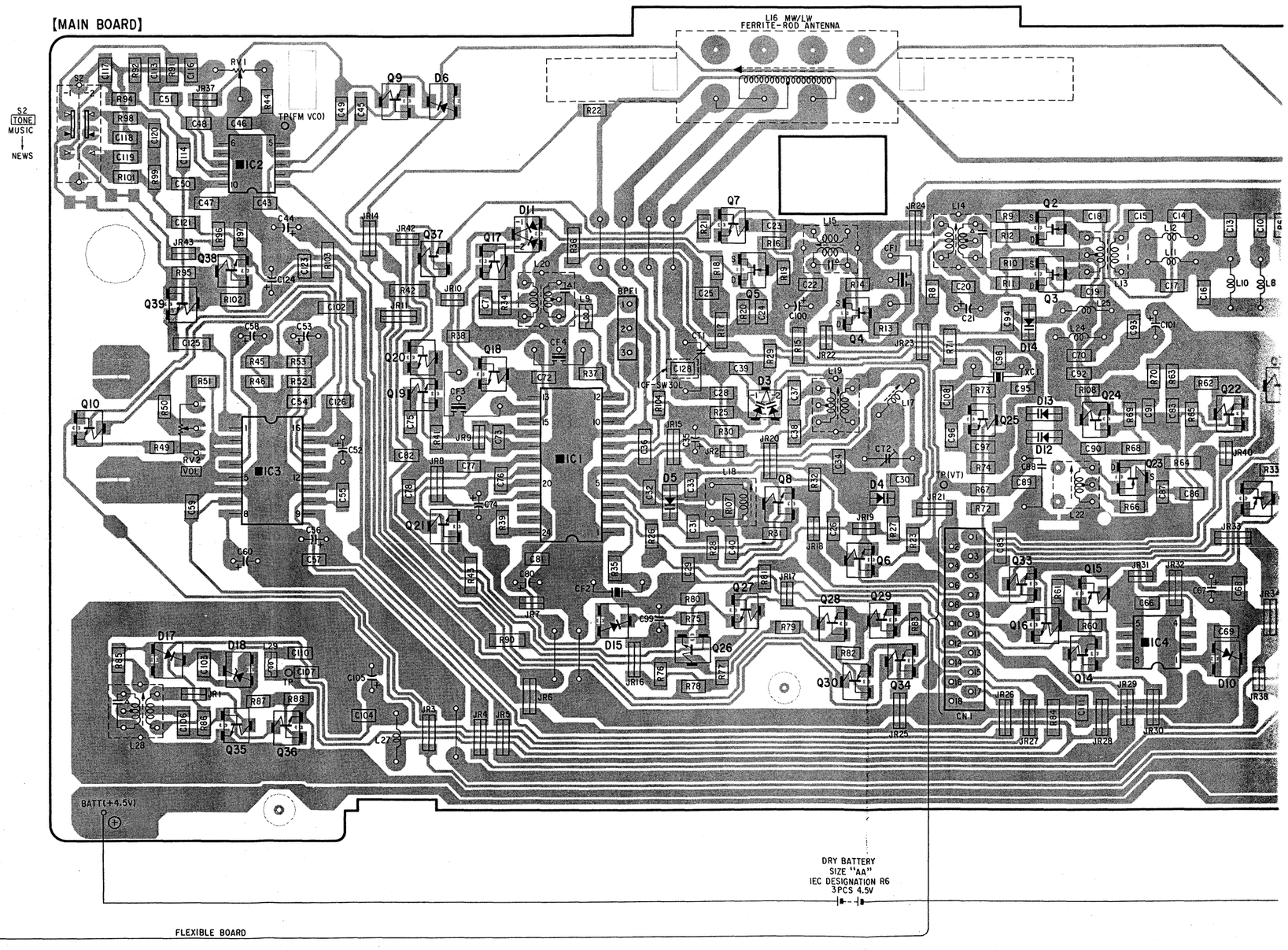




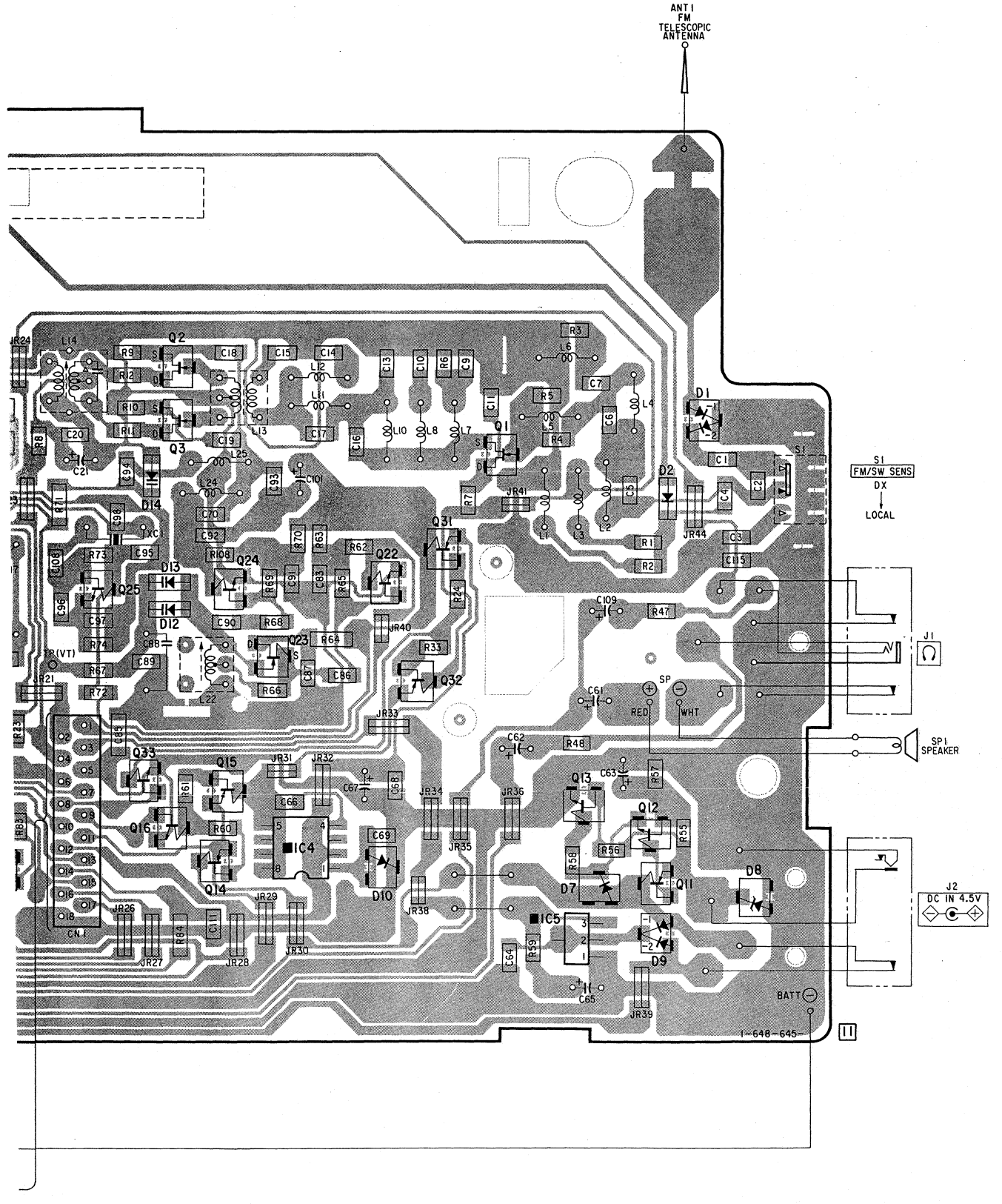
*

Model	EXCEPT French, Italian, Saudi Arabia, German, Austrian, Scandinavian countries	German, Austrian, Scandinavian countries	Italian, Saudi Arabia	French
K1	0 (Open)	1 (Solder bridge)	0 (Open)	1 (Solder bridge)
K2	0 (Open)	0 (Open)	1 (Solder bridge)	1 (Solder bridge)

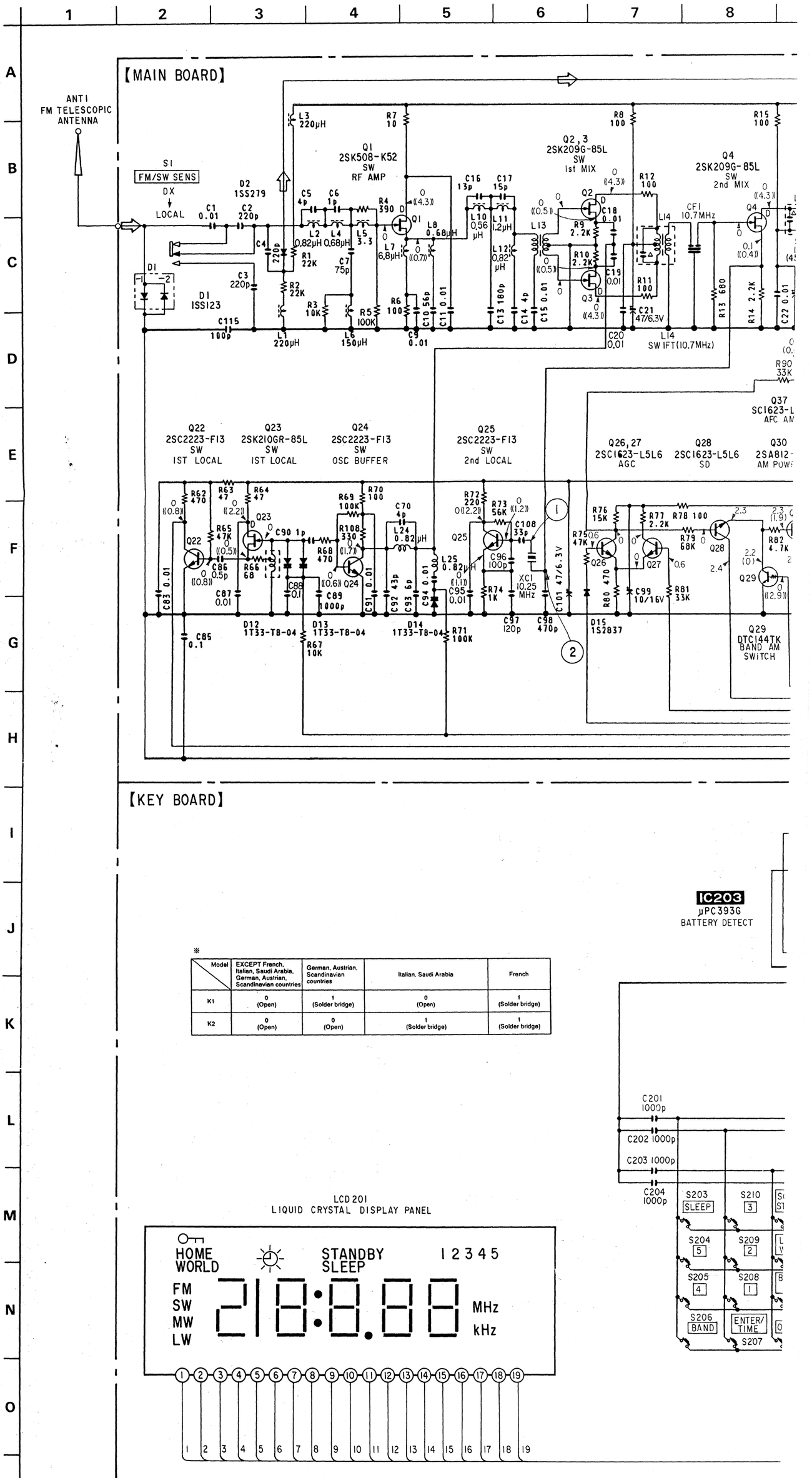




	17	18	19	20	21	22	23



• Refer to page 25 for IC Block Diagrams.



※

Model	EXCEPT French, Italian, Saudi Arabia, German, Austrian, Scandinavian countries	German, Austrian, Scandinavian countries	Italian, Saudi Arabia	French
K1	0 (Open)	1 (Solder bridge)	0 (Open)	1 (Solder bridge)
K2	0 (Open)	0 (Open)	1 (Solder bridge)	1 (Solder bridge)

Note :

- All capacitors are in µ F unless otherwise noted. pF: µ µ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 4.5V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW/LW
  (( )) : SW
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ⇨ : MW

● Refer to page 25 for Waveforms.

6 7 8 9 10 11 12 13 14 15 16

Q2,3 2SK209G-85L SW 1st MIX
Q4 2SK209G-85L SW 2nd MIX
Q5 2SK209G-85L SW IF AMP
Q6 2SC2223-FI3 AM OSC SWITCH
Q7 2SD596-DV4 AFC AMP
Q37 SC1623-L5L6 AFC AMP
Q25 SC2223-FI3 SW 2nd LOCAL
Q26,27 2SC1623-L5L6 AGC
Q28 2SC1623-L5L6 SD
Q30 2SA812-M5 AM POWER
Q31,32 2SA812-M5 SW POWER
Q34 2SA812-M5 FM POWER
Q17 2SA812-M5 SWITCH
Q29 DTC144TK BAND AM SWITCH
Q33 DTC144TK BAND SW SWITCH
Q18 DTC144EK BAND SELECT
Q19,20 2SC1623-L5L6 FM HIGH CUT MUTE
Q21 2SC1623-L5L6 MW F CHARACTERIST
Q201 DTA144EK BATTERY DETECT
Q202 DTC144EK BATTERY CHECK
Q203 2SK209G-85L PLL L·P·F
Q205 2SK209G PLL L·P·

D3 KV1580
D11 1S2837
D15 1S2837
D201-203 1S2837

IC1 CX20111 FM/AM FRONT-END IF DISCRI, IF AMP
IC201 μPD1724G FM/AM/SW PLL SYNTHESIZER, CONTROLLER, LCD DRIVE
IC202 S-80728AN-DR VOLTAGE DET
IC203 μPC393G BATTERY DETECT

BPF1
L16 LW/MW FERRITE-ROD ANTENNA
L17 FM RF
L18 FM OSC
L19
L20 FM IFT
L14 SW IFT (10.7MHz)
SW IFT (450KHz)
CF1 10.7MHz
CF2 10.7MHz DISCRI
CF3 450kHz
CF4 10.7MHz
XC1 10.25 MHz
XC201 75KHz

ICF-SW30
ICF-SW30L
CT1 10p 30p
CT2 10p

S201 MW CH STEP (KHz) 10 ← 9
S202 RESET
S203 SLEEP
S204 5
S205 4
S206 BAND
S207
S208 1
S209 2
S210 3
S211 SCAN/STANDBY
S212 LOCAL/WORLD
S213 BATT/DST
S214 ON/OFF
S215
S216
S217
S218 KEY PROTECT
S219 LOCK ON ← OFF
SW BAND SELECT/ ALARM

D201 D202 D203
D204 TUNE
K1 K2

REG BA BS SD SW

	French
	1 (Solder bridge)
	1 (Solder bridge)

Q8
2SC2223-FI3
FM VCO BUFFER

IC1
CX20111
FM/AM FRONT-END, IF DISCRI, IF AMP

IC2
LA3335M
MPX

IC3
CXA1522M
POWER AMP

IC4
LA5002M
2V REG

IC5
S-81230AG-RB
3V REG

Q9
DTA144EK
ST/MONO SWITCH

D6
SB01-05CP

Q10
2SA812-M5
MUTE

Q15
2SC815-B6B7
B+ SWITCH

Q16
DTC144EK
POWER ON/OFF SWITCH

Q14
2SB815-B6B7
B+ SWITCH

Q12
2SC1623-L5L6
POWER SELECT

Q11
2SB815-B6B7
B+ SWITCH

Q13
2SC1623-L5L6
POWER SELECT

D7
1S2837

D8
RD16M

D9
1S2837

D10
1S2837

Q38,39
2SC1623-L5L6
ACTIVE FILTER

Q21
2SC1623-L5L6
MW F CHARACTERISTIC

Q203
2SK209G-85L
PLL L·P·F

Q204
2SC1623-L5L6
PLL L·P·F

Q205
2SK209G-85L
PLL L·P·F

D17
1S2837

D18
RD16M-B2

Q35,36
2SC1623-L5L6
DC-DC CONVERTER

S2
TON
MUSIC
NEWS

S2-1
S2-2

VOL

J1

J2
DC IN 4.5V

SPI SPEAKER

DRY BATTERY
SIZE "AA"
IEC DESIGNATION R6
3PCS 4.5V

RF GND
GND
4.5V
VDD
MUTE
POWER
BEEP
2.6V
DC-DC-CONV

FM
MW
VT

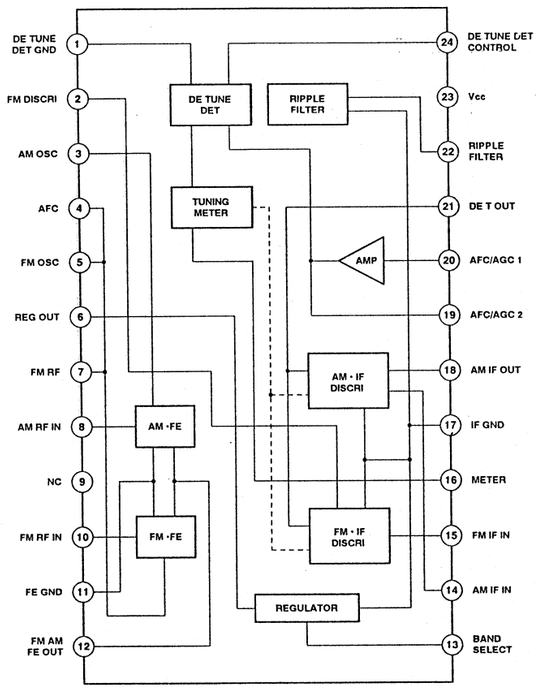
MUTE ON:0.7
OFF:2.9

TOTAL CURRENT

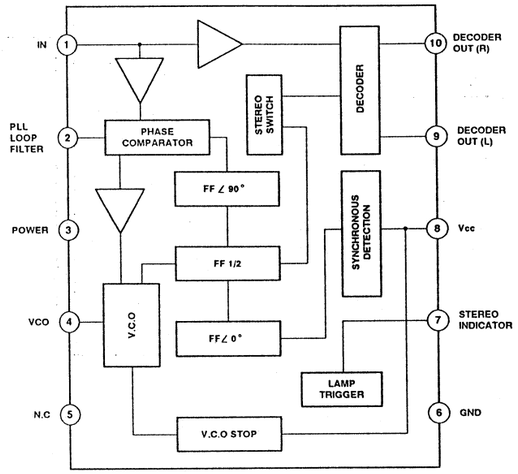
FUNCTION	CURRENT (VOL MIN)
FM	30mA
MW/LW	25mA
SW	50mA

• IC BLOCK DIAGRAMS

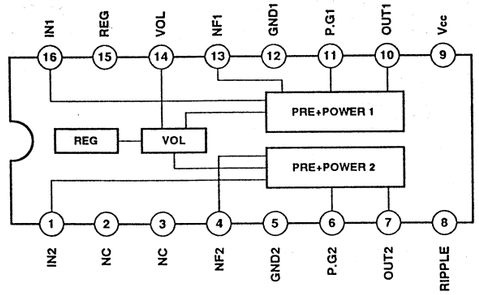
IC1 CX20111



IC2 LA3335M



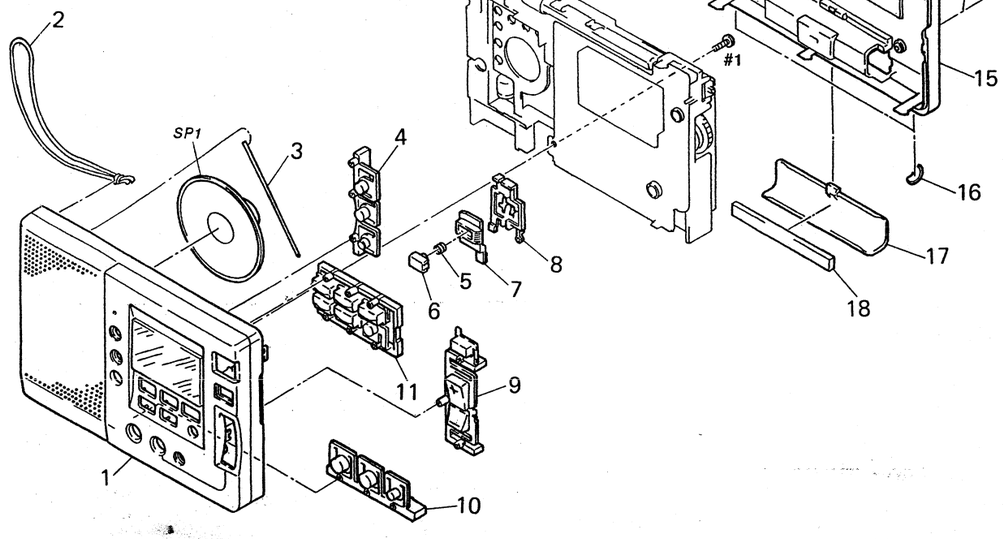
IC3 CXA1522M



SECTION 5
EXPLODED VIEWS

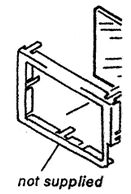
NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example :
  KNOB, BALANCE (WHITE)....(RED)
  ↑ Parts color ↑ Cabinet's color
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark)list is given in the last of this parts list.

5-1. CABINET SECTION



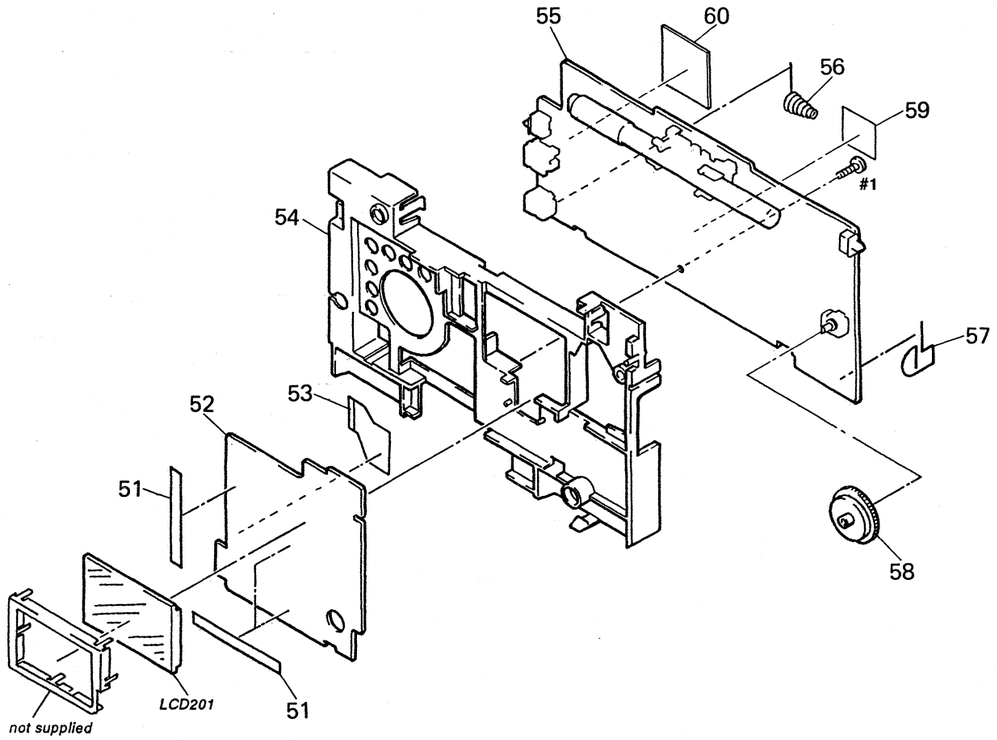
Ref. No.	Part No.	Description	Remark
1	X-3366-880-1	CABINET (FRONT) ASSY (ICF-SW30)	
1	X-3366-912-1	CABINET (FRONT) ASSY (ICF-SW30L)	
2	3-385-660-01	STRAP, HAND	
3	3-389-575-01	WITE (SP)	
4	3-389-569-01	BUTTON (KEY PRO/BATT/LOCAL)	
5	3-904-229-02	SPRING, COMPRESSION	
6	3-383-858-01	BUTTON (POWER ON/OFF)	
7	3-383-857-02	KNOB(POWER LOCK)	
8	3-383-864-02	RETAINER	
9	3-389-568-01	BUTTON (TUNE/TIME SET + -)	
10	3-389-567-01	BUTTON (ENTER/SW BAND SELECT/SCAN)	
11	3-388-676-01	BUTTON (MEMORY PRESET)	
12	3-383-877-01	PLATE (ANT), CONTACT	
13	3-385-945-01	SCREW (M3X6)	
14	3-893-839-11	STAND	
15	3-388-749-01	CABINET (REAR) (ICF-SW30)	
15	3-388-749-21	CABINET (REAR) (ICF-SW30L)	
16	3-383-881-01	FOOT, RUBBER	
17	3-383-852-01	LID, BATTERY CASE	
18	3-383-882-01	CUSHION (BATTERY CASE LID)	
ANT1	1-501-222-71	ANTENNA, TELESCOPIC (FM)	
SP1	1-544-758-11	SPEAKER (6.6CM)	

5-2. CHASSIS S



Ref. No.	Part No
51	3-831-
* 52	A-3679-
* 52	A-3679-
53	1-648-
* 54	3-388-
* 55	A-3661-
* 55	A-3661-

5-2. CHASSIS SECTION



Ref.No.	Part No.	Description	Remark
51	3-831-441-11	CUSHION, SIDE PLATE	
* 52	A-3679-517-A	KEY BOARD, COMPLETE (ICF-SW30)	
* 52	A-3679-519-A	KEY BOARD, COMPLETE (ICF-SW30L)	
53	1-648-768-11	FLEXIBLE BOARD	
* 54	3-388-677-01	CHASSIS	
* 55	A-3661-844-A	MAIN BOARD, COMPLATE (ICF-SW30)	
* 55	A-3661-848-A	MAIN BOARD, COMPLATE (ICF-SW30L)	

Ref.No.	Part No.	Description	Remark
56	3-389-572-01	TERMINAL (-), BATTERY	
57	3-389-571-01	TERMINAL (+), BATTERY	
58	3-380-913-01	KNOB (VOL)	
59	9-911-845-XX	RETAINER, PC BOARD	
60	3-906-144-01	CUSHION	
LCD201	1-810-134-11	DISPLAY PANEL, LIQUID CRYSTAL	

SECTION 6
ELECTRICAL PARTS LIST

KEY

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

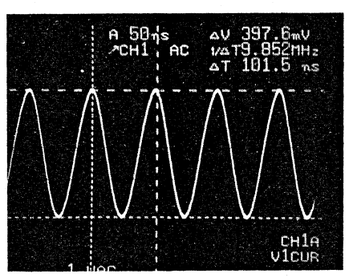
When indicating parts by reference number, please include the board.

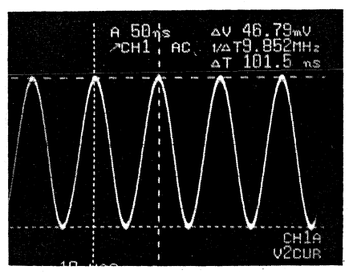
- AEP TYPE 1 : Countries except for German, Austrian, Scandinavian countries.
- AEP TYPE 2 : German, Austrian, Scandinavian countries.

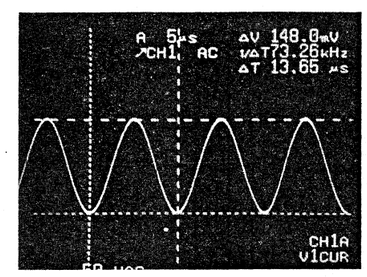
Ref.No.	Part No.	Description			Remark
*	A-3679-517-A	KEY BOARD, COMPLETE (ICF-SW30) **********			
*	A-3679-519-A	KEY BOARD, COMPLETE (ICF-SW30L) **********			
	1-648-768-11	FLEXIBLE BOARD			
	3-831-441-11	CUSHION, SIDE PLATE			
		< CAPACITOR >			
C201	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C202	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C203	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C204	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C205	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C206	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C207	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C210	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C211	1-163-098-00	CERAMIC CHIP	16PF	5% 50V	
C212	1-163-101-00	CERAMIC CHIP	22PF	5% 50V	
C213	1-163-038-00	CERAMIC CHIP	0.1uF	50V	
C214	1-126-163-11	ELECT	4.7uF	20% 50V	
C215	1-162-638-11	CERAMIC CHIP	1uF	16V	
C216	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C217	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C218	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C219	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C220	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C221	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C222	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C223	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C224	1-130-834-00	FILM	1uF	10% 63V	
C225	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C226	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C228	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
		< DIODE >			
D201	8-719-400-18	DIODE	MA152WK		
D202	8-719-400-18	DIODE	MA152WK		
D203	8-719-400-18	DIODE	MA152WK		
D204	8-719-940-99	LED	SLR-34VC3 (TUNE)		

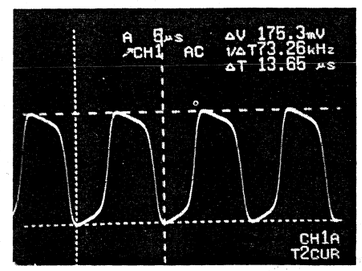
Ref.No.	Part No.	Description			Remark
		< IC >			
IC201	8-759-189-63	IC	UPD1724GB-650-1P7		
IC202	8-759-096-23	IC	S-80728AN-DR-T1		
IC203	8-759-510-73	IC	BA10393F-E2		
		< JUMPER RESISTOR >			
JR201	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR202	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR203	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR204	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR205	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR206	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR207	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR208	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR209	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR210	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR211	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR212	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR213	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR214	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR215	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR216	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR217	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR218	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR219	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR220	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR221	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR222	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR223	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR224	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR225	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR226	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR227	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR228	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR229	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR230	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR231	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR232	1-216-296-91	METAL GLAZE	0	5% 1/8W	
JR233	1-216-296-91	METAL GLAZE	0	5% 1/8W	

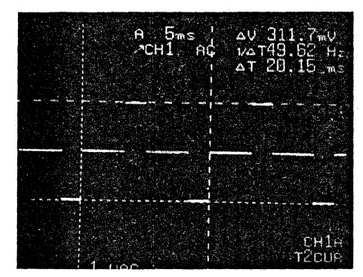
● **WAVEFORMS**

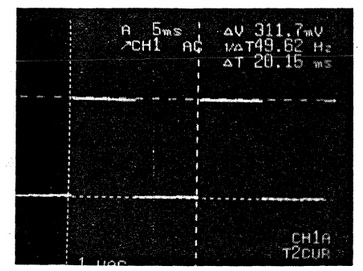
① 

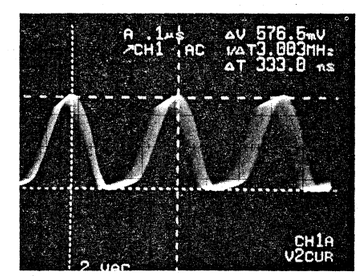
② 

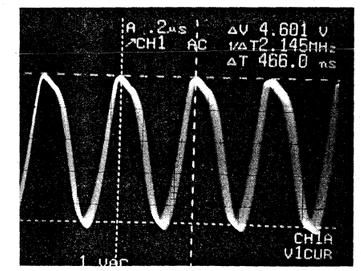
③ 

④ 

⑤ 

⑥ 

⑦ 

⑧ 

KEY

Ref. No.	Part No.	Description			Remark
JR234	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR235	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR236	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR237	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR238	1-216-295-00	METAL CHIP	0	5%	1/10W
JR239	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR240	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR242	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR243	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR244	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR245	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR246	1-216-295-00	METAL CHIP	0	5%	1/10W
JR247	1-216-295-00	METAL CHIP	0	5%	1/10W
JR248	1-216-295-00	METAL CHIP	0	5%	1/10W
JR249	1-216-296-91	METAL GLAZE	0	5%	1/8W
		< LIQUID CRYSTAL DISPLAY >			
LCD201	1-810-134-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q201	8-729-901-06	TRANSISTOR	DTA144EK		
Q202	8-729-901-01	TRANSISTOR	DTC144EK		
Q203	8-729-220-93	TRANSISTOR	2SK209-G		
Q204	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q205	8-729-220-93	TRANSISTOR	2SK209-G		
		< RESISTOR >			
R201	1-216-049-00	METAL CHIP	1K	5%	1/10W
R202	1-216-049-00	METAL CHIP	1K	5%	1/10W
R203	1-216-049-00	METAL CHIP	1K	5%	1/10W
R204	1-216-049-00	METAL CHIP	1K	5%	1/10W
R205	1-216-097-00	METAL CHIP	100K	5%	1/10W
R206	1-216-097-00	METAL CHIP	100K	5%	1/10W
R207	1-216-097-00	METAL CHIP	100K	5%	1/10W
R208	1-216-246-91	METAL GLAZE	100K	5%	1/8W
R209	1-216-246-91	METAL GLAZE	100K	5%	1/8W
R210	1-216-097-00	METAL CHIP	100K	5%	1/10W
R211	1-216-097-00	METAL CHIP	100K	5%	1/10W
R212	1-216-246-91	METAL GLAZE	100K	5%	1/8W
R213	1-216-097-00	METAL CHIP	100K	5%	1/10W
R214	1-216-097-00	METAL CHIP	100K	5%	1/10W
R215	1-216-097-00	METAL CHIP	100K	5%	1/10W
R216	1-216-097-00	METAL CHIP	100K	5%	1/10W
R217	1-216-097-00	METAL CHIP	100K	5%	1/10W
R218	1-216-097-00	METAL CHIP	100K	5%	1/10W
R219	1-216-246-91	METAL GLAZE	100K	5%	1/8W
R220	1-216-097-00	METAL CHIP	100K	5%	1/10W
R221	1-216-295-00	METAL CHIP	0	5%	1/10W
R222	1-216-295-00	METAL CHIP	0	5%	1/10W

Ref. No.	Part No.	Description			Remark
R223	1-216-295-00	METAL CHIP	0	5%	1/10W
R224	1-216-049-00	METAL CHIP	1K	5%	1/10W
R225	1-216-049-00	METAL CHIP	1K	5%	1/10W
R226	1-216-049-00	METAL CHIP	1K	5%	1/10W
R227	1-216-049-00	METAL CHIP	1K	5%	1/10W
R229	1-216-198-00	METAL CHIP	1K	5%	1/8W
R230	1-216-121-00	METAL CHIP	1M	5%	1/10W
R231	1-216-073-00	METAL CHIP	10K	5%	1/10W
R232	1-216-150-00	METAL GLAZE	10	5%	1/8W
R233	1-216-073-00	METAL CHIP	10K	5%	1/10W
R234	1-216-025-00	METAL CHIP	100	5%	1/10W
R235	1-216-025-00	METAL CHIP	100	5%	1/10W
R236	1-216-025-00	METAL CHIP	100	5%	1/10W
R237	1-216-001-00	METAL CHIP	10	5%	1/10W
R238	1-216-198-00	METAL CHIP	1K	5%	1/8W
R239	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R240	1-216-025-00	METAL CHIP	100	5%	1/10W
R241	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R242	1-216-073-00	METAL CHIP	10K	5%	1/10W
R243	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R244	1-216-049-00	METAL CHIP	1K	5%	1/10W
R245	1-216-049-00	METAL CHIP	1K	5%	1/10W
R246	1-216-043-00	METAL CHIP	560	5%	1/10W
R247	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R248	1-216-247-00	METAL GLAZE	110K	5%	1/8W
R249	1-216-099-00	METAL CHIP	120K	5%	1/10W
R250	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R251	1-216-270-00	METAL GLAZE	1M	5%	1/8W
		< SWITCH >			
S201	1-553-510-00	SWITCH, SLIDE (MW CH STEP) (ICF-SW30)			
S202	1-553-856-00	SWITCH, KEY BOARD (RESET)			
S203	1-572-198-11	SWITCH, KEY BOARD (SLEEP)			
S204	1-572-198-11	SWITCH, KEY BOARD (5)			
S205	1-572-198-11	SWITCH, KEY BOARD (BAND)			
S206	1-572-198-11	SWITCH, KEY BOARD (4)			
S207	1-572-198-11	SWITCH, KEY BOARD (ENTER/TIME)			
S208	1-572-198-11	SWITCH, KEY BOARD (1)			
S209	1-572-198-11	SWITCH, KEY BOARD (2)			
S210	1-572-198-11	SWITCH, KEY BOARD (3)			
S211	1-572-198-11	SWITCH, KEY BOARD (SCAN/STANDBY)			
S212	1-572-198-11	SWITCH, KEY BOARD (LOCAL/WORLD)			
S213	1-572-198-11	SWITCH, KEY BOARD (BATT/DST)			
S214	1-570-876-11	SWITCH, KEY BOARD (POWER ON/OFF)			
S215	1-572-198-11	SWITCH, KEY BOARD (TUNE/TIME SET UP)			
S216	1-572-198-11	SWITCH, KEY BOARD (TUNE/TIME SET DOWN)			
S217	1-572-198-11	SWITCH, KEY BOARD (SW BAND SELECT/ARARM)			
S218	1-572-198-11	SWITCH, KEY BOARD (KEY PROTECT)			
S219	1-571-958-11	SWITCH, PUSH (1 KEY) (POWER LOCK)			

KEY MAIN

Ref.No.	Part No.	Description			Remark
		< VIBRATOR >			
XC201	1-567-769-11	VIBRATOR, CRYSTAL			
**********					
*	A-3661-844-A	MAIN BOARD, COMPLETE (ICF-SW30)			
		**********			
*	A-3661-848-A	MAIN BOARD, COMPLETE (ICF-SW30L)			
		**********			
		< FILTER >			
BPF1	1-236-921-21	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C2	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C3	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C4	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C5	1-163-087-00	CERAMIC CHIP	4PF		50V
C6	1-163-083-00	CERAMIC CHIP	1PF		50V
C7	1-163-114-00	CERAMIC CHIP	75PF	5%	50V
C9	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C11	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C13	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C14	1-163-087-00	CERAMIC CHIP	4PF		50V
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C17	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C18	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C19	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C20	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C21	1-126-154-11	ELECT	47uF	20%	6.3V
C22	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C23	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C24	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C25	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C26	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C28	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C29	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C30	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C31	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C32	1-163-091-00	CERAMIC CHIP	8PF		50V
C33	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C34	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C35	1-124-638-11	ELECT	22uF	20%	10V
C36	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C37	1-163-129-00	CERAMIC CHIP	330PF	5%	50V (ICF-SW30)
C37	1-163-130-00	CERAMIC CHIP	360PF	5%	50V (ICF-SW30L)
C38	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V (ICF-SW30)
C38	1-163-127-00	CERAMIC CHIP	270PF	5%	50V (ICF-SW30L)
C39	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C40	1-163-087-00	CERAMIC CHIP	4PF		50V
C43	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C44	1-126-154-11	ELECT	47uF	20%	6.3V
C45	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C46	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C47	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C48	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C49	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C50	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C51	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C52	1-126-157-11	ELECT	10uF	20%	16V
C53	1-126-163-11	ELECT	4.7uF	20%	50V
C54	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C55	1-164-346-11	CERAMIC CHIP	1uF		16V
C56	1-128-057-11	ELECT	330uF	20%	6.3V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-126-163-11	ELECT	4.7uF	20%	50V
C59	1-164-346-11	CERAMIC CHIP	1uF		16V
C60	1-124-638-11	ELECT	22uF	20%	10V
C61	1-104-483-11	ELECT	470uF	20%	4V
C62	1-126-177-11	ELECT	100uF	20%	10V
C63	1-124-638-11	ELECT	22uF	20%	10V
C64	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C65	1-126-925-11	ELECT	470uF	20%	10V
C66	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C67	1-124-635-00	ELECT	220uF	20%	4V
C68	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C69	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C70	1-163-087-00	CERAMIC CHIP	4PF		50V
C71	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C72	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C73	1-164-346-11	CERAMIC CHIP	1uF		16V
C74	1-126-163-11	ELECT	4.7uF	20%	50V
C75	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C76	1-164-346-11	CERAMIC CHIP	1uF		16V
C77	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C78	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C80	1-126-177-11	ELECT	100uF	20%	10V
C81	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C82	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C83	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C85	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V

Ref.No.	Part No.	Description		Remark
C86	1-163-082-00	CERAMIC CHIP	0.5PF	0.25PF 50V
C87	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C88	1-136-850-11	FILM	0.1uF	10% 63V
C89	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V
C90	1-163-083-00	CERAMIC CHIP	1PF	50V
C91	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C92	1-163-108-00	CERAMIC CHIP	43PF	5% 50V
C93	1-163-089-00	CERAMIC CHIP	6PF	50V
C94	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C95	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C96	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C97	1-163-119-00	CERAMIC CHIP	120PF	5% 50V
C98	1-163-133-00	CERAMIC CHIP	470PF	5% 50V
C99	1-126-157-11	ELECT	10uF	20% 16V
C100	1-126-154-11	ELECT	47uF	20% 6.3V
C101	1-126-154-11	ELECT	47uF	20% 6.3V
C102	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C103	1-163-038-00	CERAMIC CHIP	0.1uF	25V
C104	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C105	1-126-925-11	ELECT	470uF	20% 10V
C106	1-163-100-00	CERAMIC CHIP	20PF	5% 50V
C107	1-164-346-11	CERAMIC CHIP	1uF	16V
C108	1-163-105-00	CERAMIC CHIP	33PF	5% 50V
C109	1-126-177-11	ELECT	100uF	20% 10V
C110	1-164-346-11	CERAMIC CHIP	1uF	16V
C111	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C113	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V
C114	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V
C115	1-163-117-00	CERAMIC CHIP	100PF	5% 50V
C116	1-163-003-11	CERAMIC CHIP	330PF	10% 50V
C117	1-163-016-00	CERAMIC CHIP	0.0039uF	10% 50V
C118	1-163-003-11	CERAMIC CHIP	330PF	10% 50V
C119	1-163-016-00	CERAMIC CHIP	0.0039uF	10% 50V
C120	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V
C121	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V
C123	1-164-232-11	CERAMIC CHIP	0.01uF	50V
C124	1-126-157-11	ELECT	10uF	20% 16V
C125	1-162-637-11	CERAMIC CHIP	0.47uF	16V
C126	1-164-005-11	CERAMIC CHIP	0.47uF	25V
C128	1-163-115-00	CERAMIC CHIP	82PF	5% 50V (ICF-SW30L)
		< FILTER >		
CF1	1-577-687-11	FILTER, CERAMIC		
CF2	1-577-324-11	FILTER, CERAMIC		
CF2	1-579-881-11	FILTER, CERAMIC		
CF3	1-577-601-11	FILTER, CERAMIC		
CF4	1-577-324-11	FILTER, CERAMIC		

Ref.No.	Part No.	Description	Remark
		< CONNECTOR >	
CN1	1-750-505-11	CONNECTOR, FPC 18P	
		< TRIMMER >	
CT1	1-141-304-21	CAP, TRIMMER 10PF (ICF-SW30)	
CT1	1-141-443-11	TRIMMER, CERAMIC (ICF-SW30L)	
CT2	1-141-304-21	CAP, TRIMMER 10PF	
		< DIODE >	
D1	8-719-800-76	DIODE 1SS226	
D2	8-719-123-79	DIODE 1SS279	
D3	8-719-032-60	DIODE KV1580-TL345	
D4	8-719-950-19	DIODE 1T33-T8-04	
D5	8-719-950-19	DIODE 1T33-T8-04	
D6	8-719-938-72	DIODE SB01-05CP	
D7	8-719-400-18	DIODE MA152WK	
D8	8-719-106-98	DIODE RD16M-B	
D9	8-719-400-18	DIODE MA152WK	
D10	8-719-400-18	DIODE MA152WK	
D11	8-719-400-18	DIODE MA152WK	
D12	8-719-950-19	DIODE 1T33-T8-04	
D13	8-719-950-19	DIODE 1T33-T8-04	
D14	8-719-950-19	DIODE 1T33-T8-04	
D15	8-719-400-18	DIODE MA152WK	
D17	8-719-400-18	DIODE MA152WK	
D18	8-719-106-98	DIODE RD16M-B	
		< IC >	
IC1	8-752-061-79	IC CX20111-T6	
IC2	8-759-804-98	IC LA3335M	
IC3	8-752-057-63	IC CXA1522M	
IC4	8-759-804-76	IC LA5002M	
IC5	8-759-939-41	IC S-81230AG-RB	
		< JACK >	
J1	1-566-891-11	JACK (HEADPHONE)	
J2	1-695-153-11	JACK, DC (DC IN 4.5V)	
		< JUMPER RESISTOR >	
JR1	1-216-295-00	METAL CHIP 0 5%	1/10W
JR2	1-216-295-00	METAL CHIP 0 5%	1/10W
JR3	1-216-296-91	METAL GLAZE 0 5%	1/8W
JR4	1-216-296-91	METAL GLAZE 0 5%	1/8W
JR5	1-216-296-91	METAL GLAZE 0 5%	1/8W
JR6	1-216-296-91	METAL GLAZE 0 5%	1/8W
JR7	1-216-295-00	METAL CHIP 0 5%	1/10W

MAIN

Ref.No.	Part No.	Description			Remark
JR8	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR9	1-216-295-00	METAL CHIP	0	5%	1/10W
JR10	1-216-295-00	METAL CHIP	0	5%	1/10W
JR11	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR14	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR15	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR16	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR17	1-216-295-00	METAL CHIP	0	5%	1/10W
JR18	1-216-295-00	METAL CHIP	0	5%	1/10W
JR19	1-216-295-00	METAL CHIP	0	5%	1/10W
JR20	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR21	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR22	1-216-295-00	METAL CHIP	0	5%	1/10W
JR23	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR24	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR25	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR26	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR27	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR28	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR29	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR30	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR31	1-216-295-00	METAL CHIP	0	5%	1/10W
JR32	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR33	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR34	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR35	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR36	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR37	1-216-295-00	METAL CHIP	0	5%	1/10W
JR38	1-216-295-00	METAL CHIP	0	5%	1/10W
JR39	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR40	1-216-295-00	METAL CHIP	0	5%	1/10W
JR41	1-216-295-00	METAL CHIP	0	5%	1/10W
JR42	1-216-295-00	METAL CHIP	0	5%	1/10W
JR43	1-216-295-00	METAL CHIP	0	5%	1/10W
JR44	1-216-296-91	METAL GLAZE	0	5%	1/8W

< COIL >

L1	1-412-319-41	INDUCTOR	220uH
L2	1-412-290-11	INDUCTOR	0.82uH
L3	1-412-319-41	INDUCTOR	220uH
L4	1-412-289-11	INDUCTOR	0.68uH
L5	1-412-297-11	INDUCTOR	3.3uH
L6	1-412-317-11	INDUCTOR	150uH
L7	1-412-301-11	INDUCTOR	6.8uH
L8	1-412-289-11	INDUCTOR	0.68uH
L9	1-412-002-31	INDUCTOR CHIP	4.7uH
L10	1-412-288-11	INDUCTOR	0.56uH
L11	1-412-292-11	INDUCTOR	1.2uH
L12	1-412-290-11	INDUCTOR	0.82uH

Ref.No.	Part No.	Description	Remark
L13	1-426-357-11	TRANSFORMER, RF	
L14	1-426-464-11	COIL (RF)	
L15	1-404-444-31	TRANSFORMER, IF	
L16	1-501-613-11	ANTENNA, FERRITE-ROD (MW)(ICF-SW30)	
L16	1-501-614-11	ANTENNA, FERRITE-ROD (LW)(ICF-SW30L)	
L17	1-406-922-11	COIL, (RF)	
L18	1-406-786-11	COIL, FM (OSC)	
L19	1-406-269-11	COIL (OSC)	
L20	1-404-444-31	TRANSFORMER, IF	
L22	1-406-787-11	COIL, SW (OSC)	
L24	1-412-290-11	INDUCTOR 0.82uH	
L25	1-412-290-11	INDUCTOR 0.82uH	
L27	1-412-319-41	INDUCTOR 220uH	
L28	1-423-730-11	TRANSFORMER, D/D CONVERTER	
L29	1-412-010-41	INDUCTOR CHIP 22uH	

< TRANSISTOR >

Q1	8-729-116-64	TRANSISTOR	2SK508-K51
Q2	8-729-220-93	TRANSISTOR	2SK209-G
Q3	8-729-220-93	TRANSISTOR	2SK209-G
Q4	8-729-220-93	TRANSISTOR	2SK209-G
Q5	8-729-220-93	TRANSISTOR	2SK209-G
Q6	8-729-102-07	TRANSISTOR	2SC2223-F13
Q7	8-729-141-75	TRANSISTOR	2SD596DV345
Q8	8-729-102-07	TRANSISTOR	2SC2223-F13
Q9	8-729-901-06	TRANSISTOR	DTA144EK
Q10	8-729-216-22	TRANSISTOR	2SA1162
Q11	8-729-807-87	TRANSISTOR	2SB1295-UL6
Q12	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q13	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q14	8-729-807-87	TRANSISTOR	2SB1295-UL6
Q15	8-729-807-87	TRANSISTOR	2SB1295-UL6
Q16	8-729-901-01	TRANSISTOR	DTC144EK
Q17	8-729-216-22	TRANSISTOR	2SA1162
Q18	8-729-901-01	TRANSISTOR	DTC144EK
Q19	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q20	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q21	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q22	8-729-102-07	TRANSISTOR	2SC2223-F13
Q23	8-729-208-47	TRANSISTOR	2SK210-GR
Q24	8-729-102-07	TRANSISTOR	2SC2223-F13
Q25	8-729-102-07	TRANSISTOR	2SC2223-F13
Q26	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q27	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q28	8-729-120-28	TRANSISTOR	2SC1623-L5L6
Q29	8-729-903-30	TRANSISTOR	DTC144TK
Q30	8-729-216-22	TRANSISTOR	2SA1162
Q31	8-729-216-22	TRANSISTOR	2SA1162
Q32	8-729-216-22	TRANSISTOR	2SA1162

Ref. No.	Part No.	Description				Remark
Q33	8-729-903-30	TRANSISTOR	DTC144TK			
Q34	8-729-216-22	TRANSISTOR	2SA1162			
Q35	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
Q36	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
Q37	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
Q38	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
Q39	8-729-120-28	TRANSISTOR	2SC1623-L5L6			
		< RESISTOR >				
R1	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R2	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R3	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R4	1-216-039-00	METAL CHIP	390	5%	1/10W	
R5	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R6	1-216-025-00	METAL CHIP	100	5%	1/10W	
R7	1-216-001-00	METAL CHIP	10	5%	1/10W	
R8	1-216-025-00	METAL CHIP	100	5%	1/10W	
R9	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R10	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R11	1-216-025-00	METAL CHIP	100	5%	1/10W	
R12	1-216-025-00	METAL CHIP	100	5%	1/10W	
R13	1-216-045-00	METAL CHIP	680	5%	1/10W	
R14	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R15	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R16	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R17	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R18	1-216-041-00	METAL CHIP	470	5%	1/10W	
R19	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R20	1-216-025-00	METAL CHIP	100	5%	1/10W	
R21	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R23	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R24	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R25	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R26	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R27	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R28	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R29	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R30	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R31	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R32	1-216-029-00	METAL CHIP	150	5%	1/10W	
R33	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R34	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R35	1-216-029-00	METAL CHIP	150	5%	1/10W	
R36	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R37	1-216-037-00	METAL CHIP	330	5%	1/10W	
R38	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R39	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R41	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R42	1-216-246-91	METAL GLAZE	100K	5%	1/8W	
R43	1-216-238-00	METAL GLAZE	47K	5%	1/8W	
R44	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R46	1-216-017-00	METAL CHIP	47	5%	1/10W	
R47	1-216-017-00	METAL CHIP	47	5%	1/10W	
R48	1-216-017-00	METAL CHIP	47	5%	1/10W	
R49	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R50	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R51	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R52	1-216-017-00	METAL CHIP	47	5%	1/10W	
R53	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R55	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R56	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R57	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R58	1-216-041-00	METAL CHIP	470	5%	1/10W	
R59	1-216-025-00	METAL CHIP	100	5%	1/10W	
R60	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R61	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R62	1-216-041-00	METAL CHIP	470	5%	1/10W	
R63	1-216-017-00	METAL CHIP	47	5%	1/10W	
R64	1-216-166-00	METAL GLAZE	47	5%	1/8W	
R65	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R66	1-216-021-00	METAL CHIP	68	5%	1/10W	
R67	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R68	1-216-041-00	METAL CHIP	470	5%	1/10W	
R69	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R70	1-216-025-00	METAL CHIP	100	5%	1/10W	
R71	1-216-246-91	METAL GLAZE	100K	5%	1/8W	
R72	1-216-033-00	METAL CHIP	220	5%	1/10W	
R73	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R74	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R75	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R76	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R77	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R78	1-216-025-00	METAL CHIP	100	5%	1/10W	
R79	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R80	1-216-041-00	METAL CHIP	470	5%	1/10W	
R81	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R82	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R83	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R84	1-216-198-00	METAL CHIP	1K	5%	1/8W	
R85	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R86	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R87	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R88	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R90	1-216-234-00	METAL GLAZE	33K	5%	1/8W	
R91	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R92	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R94	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R95	1-216-097-00	METAL CHIP	100K	5%	1/10W
R96	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R97	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R98	1-216-091-00	METAL CHIP	56K	5%	1/10W
R99	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R101	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W
R103	1-216-174-00	METAL GLAZE	100	5%	1/8W
R104	1-216-049-00	METAL CHIP	1K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-037-00	METAL CHIP	330	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-241-631-11	RES, ADJ, CARBON 22K (FM VCO)			
RV2	1-223-450-11	RES, VAR, CARBON 50K (VOL)			
		< SWITCH >			
S1	1-571-850-81	SWITCH, SLIDE (FM/SW SENS)			
S2	1-571-850-81	SWITCH, SLIDE (TONE)			
		< VIBRATOR >			
XC1	1-760-018-21	VIBRATOR, CRYSTAL			
**********					
		MISCELLANEOUS			
		**********			
ANT	1-501-222-71	ANTENNA, TELESCOPIC (FM)			
SP1	1-544-758-11	SPEAKER (6.6CM)			
**********					
		ACCESSORIES & PACKING MATERIALS			
		**********			
	3-757-182-01	MANUAL, INSTRUCTION (JAPANESE/ENGLISH/KOREAN) (Tourist)			
	3-757-182-11	MANUAL, INSTRUCTION (ENGLISH/SPANISH/PORTUGUESE) (US, Canadian, AEP TYPE1, UK, E, Australian)			
	3-757-182-41	MANUAL, INSTRUCTION (FRENCH/ITALIAN/DUTCH) (Canadian, French, AEP TYPE1/TYPE2, Italian)			
	3-757-182-51	MANUAL, INSTRUCTION (ENGLISH/GERMAN/SWEDISH) (AEP TYPE1/TYPE2)			
	3-757-182-61	MANUAL, INSTRUCTION (DANISH/FINNISH))			
	3-757-182-71	MANUAL, INSTRUCTION (ENGLISH/ARABIC) (Saudi Arabia)			
	3-893-802-09	HAND BOOK (Tourist)			
	3-893-940-19	GUIDE, SHORT WAVE (EXCEPT Tourist)			
*	3-905-473-01	INDIVIDUAL CARTON (ICF-SW30:Tourist)			
*	3-905-666-01	INDIVIDUAL CARTON (ICF-SW30:EXCEPT Tourist)			
*	3-906-028-01	INDIVIDUAL CARTON (ICF-SW30L)			
	3-906-140-01	CASE, CARRYING (Tourist)			
**********					
		**********			
		HARDWARE LIST			
		**********			
#1	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT			
#2	7-685-153-19	SCREW +P 3X30 TYPE2 NON-SLIT			

9-959-053-11

Sony Corporation
Personal Telecommunications Group

English
93F02100-1
Printed in Japan
©1993.6
Published by Audio Sector Quality Assurance Dept.